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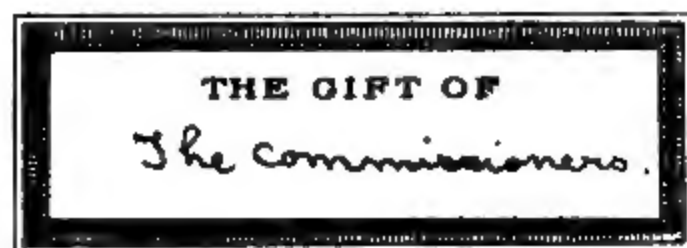
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TWENTY-EIGHTH ANNUAL REPORT
OF
THE BOARD
OF
GAS AND ELECTRIC LIGHT
COMMISSIONERS
OF
The Commonwealth of Massachusetts.

FOR THE CALENDAR YEAR 1912, INCLUDING TABLES FROM THE
ANNUAL RETURNS FOR THE YEAR ENDING
JUNE 30, 1912.

Compliments of

BOARD OF
GAS AND ELECTRIC LIGHT COMMISSIONERS.

BOSTON:
WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
32 DERNE STREET.
1913.

APPROVED BY
THE STATE BOARD OF PUBLICATION.

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The Commonwealth of Massachusetts.

The Board of Gas and Electric Light Commissioners respectfully submits its twenty-eighth annual report.

Returns for the year ending June 30, 1912, have been made to the Board by sixty-eight incorporated gas companies, fifty-six incorporated electric light companies and twenty persons, associations or manufacturing corporations engaged in making or selling gas or electricity for light or heat. Of the gas companies making returns, twenty-three supplied both gas and electricity. Of the persons, associations or manufacturing corporations mentioned above, nine were engaged in supplying gas only, and eleven in supplying electricity only. One gas company made a return, but did no business during the year. Of those making returns, three companies and two persons or associations ceased doing business during the year.

Returns for the same period have been made to the Board by the proper officials of three cities and twenty-nine towns owning municipal lighting plants. Of the municipal plants in question, four supply both gas and electricity, and the others electricity only.

The following table gives the names of the companies chartered under the provisions of chapter 110 of the Revised Laws during the year 1912, with gas or electric lighting powers, with the location, the amount of capital of each and date of incorporation, as stated in their charters:—

Agawam Electric Company, Agawam,	\$10,000	Dec. 13
Belchertown Electric Company, Belchertown,	7,000	Feb. 12
Pittsford Electric Light and Power Company, The, Lawrence,	30,000	July 8
South Shore Gas Company, Hull,	500,000	July 24
Warren Power Company, Springfield,	100,000	Oct. 8

Of these companies, the Belchertown Electric Company has applied to this Board for approval of an issue of stock.

The Agawam Electric Company was organized for the purpose of the following: "To manufacture, buy, sell, deal in, supply and distribute electricity for electric lights, heating and power, and to acquire by purchase, lease or otherwise, and to erect, maintain and operate works, poles, wires and other apparatus for the manufacture, supply and distribution of electricity for electric lights, heating and power, but only in accordance with the laws of this Commonwealth."

The Belchertown Electric Company was organized for the purpose of "generating, distributing and selling electricity for public and private lighting and for power, also for operating heating, cooking, kindred apparatus and motors."

The Pittsford Electric Light and Power Company was organized for the purpose of "manufacturing, buying, selling, leasing and using machinery, generators, motors, lamps, apparatus, devices, supplies and articles of every kind appertaining to or in any wise connected with the production, use, distribution, regulation, control or application of electricity or electrical apparatus for the purpose of light, heating, power, locomotion, telephony, telegraphy, metallurgy, or for any other purpose or use; to construct, acquire, use, sell, buy or lease any works, construction or plant, or part thereof, connected with or involving such use, distribution, regulation, control or application of electricity, or the control or use of electrical apparatus for any purpose; and to produce, furnish and supply electricity or electrical apparatus in any form for any purpose whatsoever, and generally to manufacture, buy, sell and lease, use machines, engines, mechanical devices and articles of any other character, and to carry on a general manufacturing business."

The South Shore Gas Company was organized for the purpose of "making, selling and distributing gas for light and for heating, cooking, chemical and mechanical purposes in the towns of Hull, Hingham, Cohasset and Scituate."

The Warren Power Company was organized for the purpose of "carrying on the business of manufacturing, generating, acquiring, storing, transmitting, distributing and selling electricity for light, heat, power and for any other uses or purposes not prohibited by law, and for the erecting, buying, selling,

leasing or otherwise acquiring, operating and maintaining electric lighting, heating and power plants, and for the erecting, buying, selling, leasing or otherwise acquiring, maintaining and operating lines for the distribution and transmission of electricity for light, heat and power, and to do all things necessary to carry out and conduct said business in any way or manner not prohibited by law.”

The Commonwealth Gas and Electric Corporation was organized under the Business Corporation Law, on Aug. 20, 1912, with an authorized capital of \$1,000, and located in Boston, for the following purpose: “To manage and operate within and without the Commonwealth gas and electric companies (but not for the purpose of carrying on within the Commonwealth the business of gas or electric light, heat or power company), and property used in the manufacture, purchase, sale and distribution of gas or electricity; to furnish engineering service for gas or electric companies, and to the owners of plants or properties used for the purpose of manufacturing, buying, selling or distributing gas or electricity; to buy and sell machinery, tools, apparatus, appliances, materials, supplies and other property necessary, useful, proper or incident to the manufacture, purchase, sale or distribution of gas or electricity.”

During the year several corporations have been organized under the Business Corporation Law with gas or electric powers, and in some instances with the further power of owning and operating railroads, street railways and water works, outside the Commonwealth. These corporations are as follows: —

Canaan Light and Power Company, Boston, and Canaan, N. H.,	\$50,000	June 15
South Carolina Light, Power and Railway Company, Boston, and Spartanburg, N. C.,	5,000,000	June 21
Puget Sound Traction, Light and Power Company, Boston, and Seattle, Wash.,	40,000,000	July 8
Virginian Power Company, The, Boston, and Charleston, W. Va.,	10,000,000	Sept. 25
Montpelier and Barre Light and Power Company, Boston, and Montpelier, Vt.,	2,100,000	Nov. 8

It appears from certificates duly filed with the Secretary of the Commonwealth on Jan. 16, 1912, and July 1, 1912, respectively, that the name of “The Ayer Electric Light Company” has been changed to “Ayer Electric Light Company,” and the

name of "The Foxboro Electric Company" to "Union Light and Power Company."

By a certificate duly filed with the Secretary of the Commonwealth on Dec. 23, 1912, it appears that the Natick Gas Light Company has changed the purpose for which it was incorporated to read as follows: "making, selling and distributing gas for light and for heating, cooking, chemical and mechanical purposes."

ABATEMENT OF SMOKE.

In its previous annual reports the Board described the organization of the work imposed upon it by the provisions of chapter 651 of the Acts of 1910 relative to the abatement of smoke in Boston, Brookline, Cambridge, Chelsea, Everett and Somerville, and its first full year's experience therewith. Mr. William H. Gerrish has continued in charge of this department. On March 4, 1912, the Board deemed it necessary to provide him with a second assistant, and appointed Mr. Lewis J. Lyman as deputy inspector, at a salary of \$1,200. His appointment and salary were approved by the Governor and Council, and he immediately entered upon the discharge of his duties. He had been in the employ of the New England Gas and Coke Company for thirteen years in various departments; he is a practical engineer holding a second-class engineer's license from the State of Massachusetts, and his long experience has made him familiar with the problem of smoke abatement.

The Board has found no occasion yet to make any rules and regulations for the conduct of this department, as permitted by the act. It has, however, continued its working policy of making prompt investigations of all complaints received, with notice of the resulting observations to parties concerned, followed by further observations after a reasonable interval to permit correction of improper conditions. The inspectors have made, on their own initiative, periodic and systematic examinations and tests throughout the district, and the number of such observations made far exceeds the number made upon complaints received by the Board. The chief inspector has made repeated inspections of offending plants, and has in many instances been

able to offer suggestions for remedying the conditions. So far but one formal hearing, as a prerequisite for a prosecution in court for violation of the act, has been found necessary; and in this instance the Board, being satisfied that the corporation complained of had taken measures adequate to a compliance with the law, after the hearing discontinued the proceeding.

In a certain number of cases the difficulties in the way of complying with the law and continuing the business have seemed insuperable. Continued study of the conditions and successive experiments in co-operation with the inspectors have finally enabled owners of such stacks to comply with the law. Violations meanwhile the Board has not thought deserving of prosecution. Instances of a violation of the law from the same stack are found now only at rare intervals. Immediate investigation of such cases has disclosed the fact that they are almost invariably due to carelessness of the employees. A more faithful compliance with the rules for correct firing, stricter discipline in the firing room or the installation of automatic stokers is apparently the only way to prevent such occasional violations.

The law does not provide for the complete abatement of smoke. It does, however, provide for a progressive reduction of the volume of smoke which may be emitted, and reaches its permanent standard in the requirements for the calendar year 1913. The Board's further experience with the law has made it more evident that the extent of abatement required is reasonable, and may be enforced not only without hardship to the owners of power and heating plants, but with increased efficiency and economy in their operation, and with distinct advantage to the general public. The Board believes that the amount of smoke in the air has notably diminished throughout the district under the operation of the law, and that further improvement may be expected when the full effect of the campaign of education incident thereto is realized. This result is due not merely to the vigilance of the inspectors, but in a large measure to the active and continued interest and co-operation of the Boston Chamber of Commerce, the various organizations of locomotive and stationary engineers and firemen, and of all or nearly all of the largest fuel users.

The Board presents the following summarized statement of this division of its work for the year ending Nov. 30, 1912:—

Recorded observations:—

	1911.	1912.
Stationary stacks,	4,728	21,033
Locomotive stacks,	3,500 ¹	4,341
Marine stacks,	50	739
	<hr/>	<hr/>
Total,	8,278	26,113

Observations recorded showing the emission of smoke in excess of the amount allowed by the act:—

Stationary stacks,	732	1,188
Locomotive stacks,	157	204
Marine stacks,	5	28
	<hr/>	<hr/>
Total,	894	1,420

Percentage of observations in which violations were found:—

Stationary stacks,	15.5	5.6
Locomotive stacks,	3.5	4.7
Marine stacks,	10.0	3.8

Recorded observations in 1912 of stationary stacks emitting smoke in excess of the amount allowed by the act, due to the carelessness of those immediately responsible for their operation, . . . 944

Recorded observations in 1912 of stationary stacks emitting smoke in excess of the amount allowed by the act, due to overloading of plant, 224

Stationary stacks upon which recorded observations have been made may be classified as follows:—

	1911.	1912.
Public service,	53	52
Manufacturing plants,	455	650
Office buildings,	253	435
Residences,	11	4
	<hr/>	<hr/>
Total,	772	1,141

¹ Estimated. Actual record of only those cases where amount of smoke exceeded that allowed by the act.

Stationary stacks upon which recorded observations showed smoke emitted in excess of the amount allowed by the act may be classified as follows: —

	1911.	1912.
Public service,	12	11
Manufacturing plants,	388	212
Office buildings,	74	64
Residences,	1	0
	<hr/>	<hr/>
Total,	475	287

Number of stacks found after first notice or visit of chief inspector to have ceased emitting smoke in excess of the amount allowed by the act,

345 119

Additional number of stacks so found after further notices or visits,

90 166

Number of stacks from which the emission of smoke contrary to the requirements of the act had been observed and had not ceased at the close of the year: —

Public service,	2	0
Manufacturing plants,	32	2
Office buildings,	6	0
	<hr/>	<hr/>
Total,	40	2

Complaints received: —

	1910.	1911.
December,	10	1
	1911.	1912.
January,	7	12
February,	2	6
March,	4	4
April,	4	3
May,	9	7
June,	0	2
July,	4	1
August,	0	7
September,	2	4
October,	2	7
November,	6	1
	<hr/>	<hr/>
Total,	50	55

VOLUNTARY ASSOCIATIONS.

By the provisions of chapter 441 of the Acts of 1909, "Trustees of a voluntary association under a written instrument which is divided into transferable certificates of participation of shares, who own or control a majority of the capital stock of a . . . gas company or electric light company, shall annually on or before the first day of May file . . . with the board having supervision of such company a statement showing the number of shares of such company owned or controlled by them and the stockholders of record on the books of such company in whose name such shares are held." Under this act statements were filed by the trustees of the following-named voluntary associations, viz.:—

NAME OF VOLUNTARY ASSOCIATION.	Names of Gas or Electric Light Companies owned or controlled.	Number of Shares owned or controlled by Association.	Total Shares outstanding.
Boston Electric Associates,	Buzzards Bay Electric Co.,	105	110
	Vineyard Haven Gas and Electric Light Co.,	95	100
	Vineyard Lighting Co.,	245	250
Cambridge Electric Securities Company,	Cambridge Electric Light Co.,	6,088	8,500
Commonwealth Gas and Electric Companies,	Athol Gas and Electric Co.,	2,943	2,943
Ludlow Manufacturing Associates,	Marlboro-Hudson Gas Co.,	1,300	1,300
	Ludlow Manufacturing Co.,	500	500
	Boston Consolidated Gas Co.,	151,116	151,246
Massachusetts Gas Companies,	East Boston Gas Co.,	22,708	23,000
	Citizens' Gas Light Co. of Quincy,	3,830	3,830
	Newton and Watertown Gas Light Co.,	5,600	5,600
	Adams Gas Light Co.,	600	600
	Arlington Gas Light Co.,	1,000	1,000
	Ayer Electric Light Co.,	300	300
	Clinton Gas Light Co.,	246	246
	Gloucester Gas Light Co.,	2,926	3,000
	Leominster Electric Light and Power Co.,	800	800
	Leominster Gas Light Co.,	492	500
	Lexington Gas Co.,	400	400
Massachusetts Lighting Companies,	Milford Electric Light and Power Co.,	400	400
	Milford Gas Light Co.,	713	723
	Mill River Electric Light Co.,	150	150
	North Adams Gas Light Co.,	2,000	2,000
	Northampton Electric Lighting Co.,	1,174	1,174
	Northampton Gas Light Co.,	4,798	4,800
	Spencer Gas Co.,	968	975
	Williamstown Gas Co.,	400	400
	Worcester County Gas Co.,	850	850
Massachusetts Light and Traction Companies,	Barnardston Acetylene Light Co.,	22	23
	Hatfield Gas Co.,	72	95
	Malden Electric Co.,	4,676	5,250
	Malden and Melrose Gas Light Co.,	14,765	15,840
North Boston Lighting Properties,	Peoples' Gas and Electric Co. of Stoneham,	100	100
	Salem Electric Lighting Co.,	9,681	9,731
	Suburban Gas & Electric Co.,	6,532	6,845

RECOMMENDATIONS FOR LEGISLATION.

Such recommendations and suggestions for legislation as the Board desires to make will be embodied in the special report required by chapter 51 of the Resolves of the year 1912. One item, however, seems to require a specific recommendation in this report. There are now three acts in force relating to the salaries of the inspector and assistant inspectors of gas and gas meters, namely, chapter 54 of the Acts of the year 1907, chapter 536 of the Acts of the year 1908, and section 8 of chapter 483 of the Acts of the year 1909. These acts are, to a substantial extent, inconsistent with each other. The Board therefore recommends their repeal and the following new act, which shall leave the question of compensation for the inspector and his assistants to be determined by the Board, subject to the appropriations made therefor by the Legislature: —

AN ACT RELATIVE TO THE EXPENSES OF THE BOARD OF GAS AND ELECTRIC LIGHT COMMISSIONERS.

Be it enacted, etc., as follows:

SECTION 1. The board of gas and electric light commissioners may expend annually for necessary statistics, books, stationery and contingent expenses, and for clerical assistance, such sum as the general court shall annually appropriate.

SECTION 2. The board may expend annually for the compensation of the inspector of gas and gas meters, assistant inspectors, deputy inspectors of meters and for office rent, traveling and other necessary expenses incidental to the duties of said inspectors, such sum as the general court shall annually appropriate.

SECTION 3. Chapter fifty-four of the acts of the year nineteen hundred and seven, chapter five hundred and thirty-six of the acts of the year nineteen hundred and eight and section eight of chapter four hundred and eighty-three of the acts of the year nineteen hundred and nine are hereby repealed.

SECTION 4. This act shall take effect upon its passage.

ORDERS AND DECISIONS.

Price and Quality.

WOBURN PETITION.

This was a complaint in writing by the mayor and other citizens of Woburn, under section 34 of chapter 121 of the Revised Laws, relative to the price of gas supplied by the Woburn Gas Light Company. After due notice, public hearings required by law were held in Woburn, at which the petitioners and company were represented by counsel. After the close of the hearings and pending the Board's decision the petitioners withdrew their complaint. The following vote was therefore adopted: —

In the matter of the petition of the mayor and other citizens of Woburn against the Woburn Gas Light Company for a reduction in price of gas, the hearing required by law having been held and the petitioners having in writing withdrawn their petition, —

Voted, That the petitioners be allowed to discontinue said petition. (March 27.)

REVERE PETITION.

This was a complaint in writing, under the provisions of section 34 of chapter 121 of the Revised Laws, of the price of electricity sold and delivered by the Suburban Gas and Electric Company to consumers in the town of Revere. This section provides that “upon the complaint in writing of the mayor of a city or the selectmen of a town in which a corporation or company engaged in the manufacture or sale of gas or electricity for light or heat is located, or of twenty customers thereof, either of the quality or price of the gas or electric light sold and delivered, the board shall . . . give a public hearing to such petitioner and such corporation or company, and after said hearing may order any reduction in the price of gas or electric light or improvement in quality thereof.”

After due notice the Board gave a public hearing upon the complaint, at which both the petitioners and company were represented by counsel.

The complaint was signed “Inhabitants of the Town of Re-

vere, by its Committee, Robert Pirie, Chairman," and by 20 other individuals. It appeared at the hearing that the complaint originated with a committee appointed by the town in November, 1910, to consider the subject of street lighting. At a subsequent town meeting this committee was directed to present a petition to this Board for an investigation of the prices for electricity charged to the town and to consumers by the company. But it appeared at the hearing that the selectmen were not petitioners, and 7 of the persons whose names were signed to the complaint were not customers of the company for electricity, and the complaint was therefore not within the requirements of the statute authorizing the Board, after notice and a public hearing, to order a reduction in price.

The following was therefore adopted: — •

Upon the complaint in writing of Robert Pirie, chairman, and 20 others, under the provisions of section 34 of chapter 121 of the Revised Laws, relative to the price of electricity sold and delivered by the Suburban Gas and Electric Company to consumers in the town of Revere, —

Voted, That said complaint be dismissed. (June 26.)

It developed at the hearing that the committee and the company were not far apart at the time when their negotiations were interrupted by the filing of the complaint. After the hearing closed these negotiations were resumed, and the town and the company entered into a written contract for street lights. The company made a reduction in its commercial rates, effective Feb. 1, 1912, and a further reduction to take effect on July 1, 1912. The committee reported to the town meeting at which the street light contract was authorized that these reductions had been promised by the company.

MAYOR OF WORCESTER *v.* WORCESTER ELECTRIC LIGHT COMPANY.

This was a complaint in writing, under the provisions of section 34 of chapter 121 of the Revised Laws, by the mayor of the city of Worcester, of the price charged by the Worcester Electric Light Company for the street arc lights supplied to said city.

After due notice public hearings were held thereon, as required by law, at which the city and the company were represented by counsel. All of the hearings were held in Worcester.

At the time the complaint was filed the street lights supplied by the company to the city were substantially all of the type known as 4-ampere magnetite arc lamps. There were 870 of these lamps in service on June 30, 1910, and this number had increased to 919 on June 30, 1911. They burn all night and every night, or, in round numbers, approximately 4,000 hours a year, or an average of something over 10 hours a night. For these arc lamps there was no existing contract between the city and the company, but the latter was charging 25 cents per lamp per night, or \$91.25 per year, a price in force since lamps of this type were first installed, in 1906.

The city had recently entered upon a considerable extension of the incandescent street light service supplied by the company, and on June 30, 1911, there were 309 Mazda 75-watt lamps in use in addition to the arc lamps already described. For these incandescent street lights, burning for the same hours as the arcs, the city was paying \$23.50 per lamp per year. No complaint, however, was made of the price of the incandescent lamps, and the Board therefore made no finding with respect to them. The company was also supplying 204 Mazda 50-watt lamps for street lighting in the town of Leicester, and had been supplying substantially the same number to that town for several years. For these lamps, burning approximately 2,000 hours a year, the town was paying \$18¹ per lamp per year. These facts with respect to the incandescent street lights, both in Worcester and Leicester, are mentioned in order that the considerations herewith set forth may be more fully understood.

Within the last three years the company had adopted a more liberal policy toward the public and its commercial business had greatly increased. A tract of land of ample size and favorably located, although at some distance from the old station, had been purchased, and a new generating station of greatly enlarged capacity, equipped with new and improved apparatus, had been erected thereon. The old station is now used prima-

¹ On June 30, 1911, the price of the Leicester incandescent street lamps was changed from \$18 to \$16 per year.

rily as a substation and for distributing and transforming purposes. The old generating apparatus is retained as a reserve, but the new station is designed to be sufficient for the company's needs for the present and the near future. In this improvement and addition to its property the company had expended within two years about \$800,000 in excess of the amounts expended in the ordinary extensions of its distributing system. While operating costs may have been relatively high during this period of unusual construction, the company expects to secure from its new works increased economy and efficiency in operation. On June 30, 1911, the company returned as the book value of its plant \$2,099,411.74, and of its current assets \$119,421.94, a total of \$2,218,833.68, against which it had outstanding debts amounting to \$422,818.34 and capital stock of \$1,000,000. For several years the company has paid regularly a dividend of 10 per cent.

During the three years referred to there were many substantial changes in the company's price schedules, until those now in force are almost bewildering in their variety. No change, however, was made in the maximum meter rate of 12 cents a kilowatt hour. A much higher price is charged for electricity sold in Leicester, but the company's business there is so small, relative to its other business, as to be a substantially negligible factor. The following table will perhaps indicate the development of the company's business to which reference has been made: —

	1909.	1910.	1911.
K. W. H. generated, .	5,754,268	7,126,314	9,884,252
K. W. H. delivered at switchboard for street lights,	1,301,100	1,326,100	1,354,800
K. W. H. sold: —			
Commercial lighting,	2,662,231	2,881,710	3,181,793
Power,	916,642	1,673,798	3,139,556
Street railways,	—	—	236,690
K. W. H. used by company,	—	85,485	146,440
K. W. H. unaccounted for,	—	1,159,221	1,824,973
Income from street lights: —			
Worcester arcs,	\$77,002 00	\$78,790 50	\$81,125 84
Worcester incandescents,	—	112 50	3,726 16
Leicester,	3,631 00	3,668 00	3,672 00
Income from commercial lighting,	212,994 00	220,219 00	258,821 00
Income from power,	53,915 00	66,000 00	101,654 00
Income from street railways,	—	—	4,733 00

At the hearings the mayor called in his behalf an engineer who had been making an exhaustive study and report on the

fair price of the arc lamps supplied by the company. His conclusions as to price were based on a determination of the amount of property necessary and devoted by the company to this service, of the fair return to be allowed the company for its use, of a proper allowance for its depreciation and of the reasonable operating costs of the electricity supplied to the lamps. In the absence of a detailed appraisal of the company's property, this witness, aided by his own knowledge and experience, assumed, from certain figures in the company's books, in its returns to this Board and in its exhibits to support its applications for stock, that the company's investment for street arc lamps in Worcester amounted to approximately \$300,000. This was based on the figures for the year ending June 30, 1910, the last complete year available at the time of his investigation. Upon this amount he allowed a return of 5 per cent., and 7 per cent. more for depreciation. His next step was to determine the operating cost of the necessary electricity delivered at the lamp terminals. For this purpose he apportioned the company's operating expenses into three groups, viz., those varying directly with the output (termed "variable"), those dependent upon output, but varying less rapidly (termed "temporarily fixed"), and those which are not dependent upon output, but are proportional to the passage of time (termed "fixed"). By dividing the aggregate amounts of each group of expenses by the total number of kilowatt hours sold for the year, the units for the "variable," "temporarily fixed" and "fixed" expenses were found. By dividing the total number of kilowatt hours sold by the aggregate connected load of all the customers, both street and commercial, and then by dividing this result by 307 (365 days minus Sundays and holidays), the average theoretical daily use of the connected load was determined. The "fixed" and "temporarily fixed" expense units were deduced by the ratio of this figure to the average number of hours per day during which the arc lamps are lighted. By multiplying these "temporarily fixed" and "fixed" items so obtained, and the "variable" unit above described, by the total theoretical yearly kilowatt hour consumption of electricity by the arc lamps, adding to this result the amounts already determined for return on and depreciation of investment and certain other estimated items of

expense incurred exclusively in this service, and dividing the sum by the average number of lamps in use during the year, a price of \$64.83 per lamp per year was found. This figure the city claimed to be the fair price for the street arc lamps supplied by the company.

The company admitted that the fair price to be charged should be determined on the basis of cost, but claimed that this should be computed by a different method than that employed in behalf of the city. The company's method may be briefly described as follows: —

1. Separate and determine the value of the property required to supply the municipal arcs as follows: —
 - (a) Apportion investment in old and new generating stations and lines connecting same by the ratio of the municipal arc connected load to generating capacity of new station.
 - (b) Determine present value of station equipment used exclusively for municipal arc system.
 - (c) Determine present value of municipal arc lamps.
 - (d) Determine present value of municipal arc posts and fixtures.
 - (e) Determine present value of underground cable used for municipal arc circuits.
 - (f) Determine present value of ducts used in municipal arc circuits.
 - (g) Determine present value of overhead wire used in municipal arc circuits.
2. Allow 6 per cent. return on this investment.
3. Allow 5 per cent. more for its depreciation.
4. Apportion local and State taxes by the ratio of municipal arc to total investment.
5. Apportion federal tax by ratio of municipal arc to total income.
6. Apportion expense for insurance by ratio of municipal arc connected load to station capacity.
7. Apportion engineer, fireman and dynamo tender's wages, station expenses, repairs to buildings and general expense by ratio of municipal arc connected load to station capacity.
8. Apportion repairs to steam plant, poles, lines and underground construction and sundries, one-half on ratio of municipal arc connected load to station capacity and one-half on the ratio of output for street lamps to total output of station.
9. Apportion fuel, oil, water, waste and repairs to electric plant on the ratio of output for street lamps to total output of station.

10. Ascertain actual cost of rectifier tubes, renewals, patrolling, trimming and repairs and renewals of lamps, globes and carbons for municipal arcs.

By adding items 2 to 10, inclusive, and dividing the result by the actual number of arc lamps supplied, the fair annual price per lamp was found as claimed by the company.

By applying this method to figures made up for the most part for the same year as that used by the city, namely, that ending June 30, 1910, but on the basis of 900 lamps in service, the cost per lamp per year was computed to be \$96.25. Before the close of the hearings, however, the company made a similar computation on the basis of 900 lamps, using the figures for the year ending June 30, 1911, eliminating from its valuation of the municipal arc system all property represented by the company's actual depreciation charges, which the city had claimed to be excessive, and all represented by or acquired from surplus, and found the annual cost per lamp to be \$91.94. The company in consequence contended that its price was fair and reasonable, and should not be reduced.

In order that the results of the two methods of determining the cost of this service may the more readily be compared, the Board applied the city's method to the figures representing the company's operations for the year ending June 30, 1911, without, however, making any changes in the investment figure used by the city. The following table exhibits the contrast: —

Investment in municipal arc system, as per city, \$300,000
Investment as per company (depreciation, however, to be reckoned on \$397,515, which figure excludes value of land), 403,976

	CITY.		COMPANY.	
	For 900 Lamps.	Per Lamp.	For 900 Lamps.	Per Lamp.
1. Operating expenses,	\$19,600	\$21 77	\$38,633	\$42 93
2. Depreciation,	21,000	23 33	19,875	22 08
3. Return on investment,	15,000	16 67	24,238	26 93
Total,	\$55,600	\$61 77	\$82,746	\$91 94

Had the calculation on the city's theory been based upon the same investment as that claimed by the company, the result

would have been \$75.63 per lamp. Had the calculation on the company's theory been based upon the same investment as that claimed by the city, the result would have been \$79.60 per lamp.

The Board has described the respective contentions of the two parties at some length, not with the purpose of discussing the relative merits of every detail of the methods employed in attempting to determine the cost of supplying street arc lamps in Worcester, but to indicate the wide differences in method and result of two parties, both familiar with the problem and working independently to present a convincing solution. While one method easily lends itself to the maintenance of existing prices, the other may be equally available to force them to a lower level.

It is proper to say that the Board was impressed with the ability, intelligence and fairness with which the parties, both in their evidence and arguments, presented their respective views. It is perhaps true that, having the advantage of a more intimate knowledge of its property and affairs, the company was able to make a more detailed analysis of its business and a more convincing array of the items of investment and expense theoretically attributable to the municipal arc system. Any attempt, however, at a separation, either as to investment or operation, must in the nature of things be theoretical, and based on many assumptions, arbitrary even though plausible. The municipal arc system is operated as an integral part of the company's entire plant. The fundamental reason for the failure to accept either method as in itself conclusive is that the municipal arc system is neither a separate nor readily separable part of the company's business.

It must not be inferred that the Board has lost sight of certain distinctive features of the municipal arc system. The lamp posts, lamps and fixtures, the wires and underground cables by which they are supplied, and the rectifier plant, by which the alternating current generated is converted into direct current before delivery to the municipal arc circuits, are all devoted exclusively to this service. The wages of trimmers and patrolmen and the expenses for repairs and renewals of lamps, posts, fixtures, lines and rectifier plant are incurred solely for this service and may be definitely ascertained. But beyond these items,

which, though substantial, by no means represent all that is requisite for the installation, maintenance and operation of the system, consideration must be given the investment and expense incurred for the company's commercial business as well as for the municipal arc system.

Mention has already been made of the heavy expenditures made by the company in the erection of a new generating station. While over \$48,000 was thus added to the municipal arc investment, as claimed by the company, the evidence was clear that this step was not taken because of any substantial increase in the municipal arc load, present or potential, but rather because of the company's rapidly expanding commercial business. If the attempt is to be made to determine the relative duties of the respective customers of the company in the maintenance of this new station, the municipal arc system should in all fairness have a share, because, in common with all other uses of electricity, it will share in the better operating conditions at the new station and in the benefits which will follow the increase in the company's business, but not necessarily because it should have the same proportionate interest therein as in the old station. In saying this the Board is by no means losing sight of the fact that even on the ratios used by the company, the station and generating equipment attributed to the municipal arc system is less than the cost of an independent municipal arc plant. But this is an advantage which belongs to the concentration in one station of the generation of electricity for all its varied uses, and the city no less than the commercial customers is entitled to benefit therefrom.

Again, much ingenuity and ability were displayed in the apportionment of the underground conduits to the municipal arc system. The total cost of all conduits to June 30, 1910, was said to be \$671,195, and testimony was offered to show that their present value was \$502,030. The lineal feet of street occupied by conduits, the number of ducts in each conduit, the number of ducts occupied by cables and the number of cables in each occupied duct, the length of cables in the municipal arc, commercial arc, incandescent lighting and power circuits, respectively, and the extent to which two or more cables of the several circuits occupied but one duct, are all known, and may

be ascertained and stated with precision as of any given date. It is a relatively simple computation to find the total number of duct feet occupied by cables and the ratio of those occupied by municipal arc cables. The number of entirely vacant ducts may as readily be ascertained. It also appeared that the aldermen in granting locations for the conduits had required the company to construct and reserve for city use one additional duct in each circuit. By determining an average value per duct foot for the conduits of all sizes, and multiplying this figure by the lineal feet of ducts occupied by the municipal arc cables, a value for the municipal arc ducts of \$129,700 was found. The company contended that to the municipal arc system should be attributed not only this value of the ducts occupied by the municipal arc cables but also a proportionate part of the value of the free city and vacant ducts. This proportionate part was determined by finding (1) the ratio of the municipal arc ducts to all ducts except the free city ducts, (2) the ratio of the vacant ducts to all ducts except the free city ducts and (3) the ratio of the municipal arc ducts to all ducts actually occupied, whether by municipal arc or commercial cables. By adding to the estimated value of the ducts occupied by municipal arc cables a percentage of the value of the free city ducts determined by ratio 1, a figure stated to be the "augmented" value of the municipal arc ducts was found. By adding to the estimated value of the vacant ducts a percentage of the value of the free city ducts determined by ratio 2, a figure claimed to be the "corrected" value of the vacant ducts was found. By adding to the "augmented" value of the municipal arc ducts a percentage of the "corrected" value of the vacant ducts determined by ratio 3, the total investment in ducts, chargeable to the municipal arc system, was at first stated to be \$214,804. Later, upon a closer examination of present value with original cost, the company claimed that this figure should be increased to \$246,973.

It will be seen at once that this calculation deals with figures substantial in amount, but is based on a highly artificial theory. A change in theory with no change whatever in the known factors already described, or in the present value of the conduits reckoned on a per duct foot unit basis, might change ma-

terially the result. As a matter of fact, the conduit system of the company was advisedly planned and constructed, with a view to the growth of its business for years to come. But the expected growth lies not so much in its municipal arc as in its commercial business. The municipal arc circuits undoubtedly have been extended into every conduit as soon as constructed, but the same is probably not equally true of the commercial circuits. It also appeared at the hearings that ducts actually occupied are by no means fully occupied. A very considerable percentage of the conduits laid are four-duct conduits, and the testimony was that of such four-duct conduits, aside from the free city ducts, as a rule one duct is entirely vacant and sometimes two, and the remaining ducts are occupied in some cases by four, but in a majority of cases by but two cables each. No weight, however, was given in the company's presentation to ducts but partially occupied, or to the fact that ducts are reckoned as municipal arc ducts even though having but two municipal arc cables, with no probability of ever being used to any greater extent for this purpose, but with a possibility of being hereafter used for commercial cables as well. It may perhaps be claimed that the problem is not capable of any greater refinement than in the theory presented and applied by the company, but this is little more than saying that, except in certain items already alluded to, the company does not have a separate and distinct investment for its municipal arc system which can be readily and satisfactorily ascertained.

With respect to the apportionment of the operating expenses perhaps there is less ground for criticism, and any attempt at an apportionment on a different theory might not lead to any results more favorable to the city. If, however, it be admitted that there is a municipal arc investment readily separable from the rest of the company's investment, there is substantial ground for suggesting that the cost of operating this investment may be affected by other factors than those recognized by the company. Thus the company, for the sake of its commercial business, is obliged to run its plant twenty-four hours per day, and for certain hours at a relatively heavy cost. If its municipal arc system were alone concerned, the plant might be shut down at daylight and not started up again until sundown, and, while op-

erated, run at the full capacity required by its municipal arc load. Were it possible to calculate the weight of this consideration, it is not improbable that it might have a marked effect upon the operating expenses attributable to the municipal arc system, and, as a challenge to the soundness of the company's theory, it is not important whether such operating expenses might be increased or decreased thereby.

The company claimed, with some truth, that when it used the ratio of the municipal arc connected load to the new station capacity in apportioning investment, this was liberal to the city, inasmuch as it provided for no spare capacity for the municipal arc system. But in apportioning operating expenses, the ratio of the municipal arc connected load to the capacity of the old station rather than of the new was used, apparently offsetting in some measure this liberality. At any rate, the use of the latter rather than the former ratio accounts for approximately an additional \$2 of the computed cost per lamp.

It is also interesting to note that the operating expenses as computed by the company show a unit cost of approximately 2.7 cents a kilowatt hour for the electricity at the lamp terminal. This figure does not include any allowance for depreciation or return on investment, but does include the actual expenditures for repairs, maintenance and renewals upon that part of the company's distributing system attributed to the municipal arcs. It is safe to say that no commercial customer has a better load factor than the municipal arc system, or makes a longer daily use of his commercial load. But a commercial customer for light with much smaller monthly kilowatt-hour requirements of electricity than the municipal arc system is entitled to a rate of 2.5 cents a kilowatt hour under the company's present schedule, and this amount would include all of such customer's contribution, not merely to the operating expenses but also to the depreciation of and return upon the company's investment. For these last two items on the kilowatt-hour basis the city must contribute 3 cents a kilowatt hour in addition to the 2.7 cents for operating expenses.

If, on the other hand, the theory urged by the city's expert for the determination of operating expenses be considered, it will be remembered that its essential feature is an assumption

with respect to the average daily use of the company's connected load, and the relation of this to the average daily use of the municipal arc system's connected load. But the fact is that the company's total connected load was never in use for any given time on any day throughout the year for which his calculations were made. Indeed, it is doubtful if operating conditions in any company ever show such use of the connected load. To predicate a determination of the operating cost on such a purely hypothetical assumption may or may not be unreasonable, but to deduce from that unit costs based upon a supposed continued use of the connected load for the average number of hours a day during which the municipal arcs burn, while it may be plausible, is far from convincing.

The features of the two theories which have been discussed are by no means the only ones about which there may be a fair difference of opinion. It is sufficient if the Board has made clear that the theories are predicated upon the practicability of ascertaining the distinctive cost to the company of maintaining and operating the municipal arc lamps, and that there are difficulties in the way of accepting as convincing the demonstration of such cost. It is believed that enough has been said to indicate where fact ends and theory begins, and, leaving the number of municipal arc lamps supplied and their hours of burning as they are, the cost as computed by either theory might be materially affected by changes in the company's commercial business. Indeed, after a careful examination and consideration of both theories presented in this case, the Board is of the opinion that it is impracticable, under present conditions, to make an analysis and apportionment of the company's property and operations so accurate and conclusive as to be the controlling factor in fixing the price for the municipal arcs. Without very serious changes in the items of investment and operation charged by the company to the municipal arcs, a justification may be found even on the company's own theory for the price hereinafter named.

The result of its investigation convinced the Board that the price for municipal arcs cannot and should not be fixed wholly independent of the conditions surrounding the entire business of the company. To this consideration little regard

was paid by either party, and counsel for the company urged, with considerable emphasis, that the sole issue in the case was the fair price of the street arc lamps then in service, and that the reasonableness or unreasonableness of the company's prices to commercial customers was not in any manner involved in this proceeding. This is true so far as the issue raised by the petition is concerned. But every step in the application of the theories of both parties showed how intimately and inseparably the municipal arcs were associated with every other part of the company's business. It is difficult to see why the relative volume of income should be entirely ignored, if ratios based upon the whole extent and volume of the company's investment and operations are to be so unsparingly used.

The company's customers may be broadly divided into two groups, those who are dependent upon the company for their supply and those who may readily supply themselves in other ways or by other forms of power. To the first the company may dictate the price, controlled only by motives of business expediency, its own sense of justice and its duty as a public servant. To the second the company must so fix the price as to secure the customer's business or else go without it. The variety and wide range of the prices offered by the company are ample evidence of its recognition of these facts. The city with respect to its municipal arc system plainly belongs to the first class.

No one is disposed to deny to this company a fair return upon the property which it is actively and necessarily employing for the public convenience. But if the income from its entire business is more than sufficient to provide for all reasonable operating expenses, including a proper allowance for depreciation and a fair and even liberal return, there is every reason why a reduction in price can and should be made. If a reduction is to be made for this reason, those customers who belong to the first class should profit by it, for there can be little ground for lowering prices already fixed, not primarily by cost, but on the basis of what customers will and can afford to pay.

This company has had an experience common to electric light companies throughout the State. It has constantly been compelled to scrap apparatus while comparatively new, because

it had become inadequate or been superseded by more economical or efficient types. It has made an unusually heavy expenditure in placing its distribution system underground throughout the crowded sections of Worcester. It has recently been obliged, as already described, to build a new station of much larger capacity on another site at some distance from its former station. But, on the other hand, it has enjoyed a high degree of prosperity. When the company first made a return to this Board, in 1888, it had a plant valued at \$109,000 and a capital stock of \$100,000. Its returns since then show that of the amounts expended on its plant nearly one-half has been provided out of earnings through depreciation charges and in the accumulation of an actual surplus, and all this in addition to ample maintenance charges in its operating accounts. In this connection the following figures are convincing evidence that its revenue may, without any hardship or injustice to its stockholders, be reduced, and that its present condition does not justify a maintenance of prices with the expectation of providing out of income further capital for extension of its plant:—

	Manufacturing Balance.	Interest and Dividends.	Depreciation charged off.
1907,	\$152,678	\$51,282	\$78,624
1908,	162,474	90,752	81,255
1909,	177,766	80,020	79,023
1910,	187,245	82,331	102,115
1911,	220,811	107,265	186,254

The company claimed that it was its purpose in the near future to make a readjustment of its incandescent lighting rates to private consumers, and that this should be done first. If the company still desires to make a reduction in its maximum net price to private consumers, the price hereinafter named for street lights will not interfere with such purpose. The Board believes that it would be unjust, by a reduction in the price for municipal arcs, to shift the city's burden for lighting its streets to the private customers of the company, and in the price named was governed by this consideration.

At the hearings the parties agreed that the Board's findings should be made as of Sept. 10, 1911. The Board therefore recommended: —

That on and after Sept. 10, 1911, the price of the 4-ampere magnetite street arc lamps burning all night and every night, supplied by the Worcester Electric Light Company to the city of Worcester, so long as not less than 900 of said lamps are so supplied, shall be not more than 22 cents per lamp per night, or \$80.30 per lamp per year. (July 10.)

PLYMOUTH PETITION.

This was a complaint in writing, under section 34 of chapter 121 of the Revised Laws, by more than 20 customers of the Plymouth Gas Light Company, of the price of gas supplied by it in Plymouth.

After due notice the public hearings required by law were held in Plymouth, at which the petitioners and the company were represented by counsel.

At these hearings much attention was given to the public relations of the company aside from the question of price. It was claimed that it had been negligent in presenting its bills for collection until oftentimes they became inconveniently large, that it was unreasonably slow in supplying its customers with gas stoves and other devices desired for the use of gas, and that it had neglected to extend its mains in many places where prospective users had requested it to do so. All these complaints were supported by testimony at the hearings. Many of the facts bearing upon these complaints seem never to have been brought to the personal attention of those really responsible for the company's affairs and who had neither residence nor place of business in Plymouth. The difficulties are attributable in a measure to the lack of adequate office room and sufficient clerical force and to a reluctance to expend even funds in hand for additions which appeared likely to produce only a low and, in the judgment of the management, inadequate profit.

Assurance was given at the hearings by the company to the Board and the public that improvement in all these conditions would be made as rapidly as possible. Agreeably to this assurance the office and salesroom has been enlarged, the clerical force

increased, no such delay as formerly, so far as the Board has been able to learn, has occurred in the presentation of bills for gas, and 17,000 feet of new mains have been laid. In fact, in all the streets which were mentioned at the hearing as needing mains, with two exceptions, and in certain others, new mains have been laid and about 200 new meters have been installed. The work of main extension is not complete, the company having now on hand a considerable amount of pipe not yet put underground. The cost of this work and the additions to the manufacturing plant have created an indebtedness of about \$13,000.

In view of this activity on the part of the management, and the manifest intention to provide adequate facilities for properly serving the public, it seemed unnecessary for the Board to give any further consideration to these features of the complaint. If it shall appear later that any person who desires a supply of gas is unable to obtain it, an independent application may be made to the Board, which under the statute has authority to order a supply upon such terms as are legal and reasonable.

The facts submitted at the hearing relative to the question of price were supplemented by the Board's independent investigation of the company's financial history and present ability. It is one of the earliest organized gas companies in the State, having been chartered by special act in 1853. Its original capital stock was \$40,000, and all except that which, in accordance with the practice of the time, was taken by the contractor who built the plant, appears to have been paid for in full in cash at par by citizens of the town. For several years the business languished. It was occasionally supported solely by the personal credit of certain of its shareholders, and in time the enterprise came to be recognized as a conspicuously unsuccessful venture. As a result the control of the company was sold to nonresident parties who had a wider and more successful experience in this kind of business, and they and their representatives continue in the ownership and management of the company. There seems every reason to believe that in their hands its affairs have been managed with integrity and economy and with a studious endeavor to make it relatively stronger financially.

Prior to 1884 the maximum net price for gas was \$3.50 and it was reduced in that year to \$2.75. Early in 1886 it was again reduced to \$2.50, and this price remained in effect for twenty-one years, or until 1907, when it was reduced to \$2. After this complaint was filed with the Board a further reduction in price of 10 cents a thousand feet was made. Each of these reductions in price was followed with unusual promptness by compensating increases in sales and with practically no diminution in profits. Indeed, in the fiscal year immediately following the reduction in price to \$2 there was an increase of about 15 per cent. in the number of customers and 20 per cent. in the sales. Although profits were not increased proportionately, they were maintained at a somewhat higher point than they had previously reached, and the company has been able since to pay dividends which have averaged $6\frac{1}{2}$ per cent. and has had a liberal margin to invest in plant.

The capital stock of the company has never been increased. An appraisal of the plant submitted by the company at the hearing showed a valuation of about \$72,000. While this figure may possibly represent the present duplication cost, it seems to give too little consideration to depreciation, and an examination of the company's accounts shows an appreciably lower actual cost.

No dividends were paid, however, until 1879, soon after the present owners came into control, and since then have never exceeded 7 per cent., the present rate, and have averaged for the entire period 4.8 per cent. Although this rate of return is low, yet in view of the price paid for the stock by the present holders, it may be counted as fairly satisfactory, and it is evident that the management has regarded it as better policy to reinvest in plant a liberal percentage of its profits rather than to make a larger division to its shareholders.

Although the liberal expenditures for improvements in recent years afford some basis for the statement by an officer of the company that the works are in first-class condition, still the Board is of the opinion that a substantial further expenditure will be necessary if the gas is to be produced and delivered with that degree of operating efficiency which the public has a right to demand. Relatively to the size of the company the cost of

these changes must be a considerable sum. Provision for this should properly be made in part out of income, but the remainder may be provided by the issue of new securities. These demands for additional expenditure made it impracticable to require immediately a lower price than that hereinafter named. On the other hand, the Board was satisfied that such price is sufficient to provide for reasonable operating expenses, including a proper allowance for depreciation and for a fair return upon the value of the property which the company is actively and necessarily employing for the public convenience. With the completion, however, of this new work, which should be made with due consideration for the company's probable growth, with the additional output which may reasonably be expected from the extension of its mains, the increase in the number of its customers and the reduction in price, further reductions will not only become possible but eminently desirable, both in the interest of the company and its customers. Remaining, however, as it probably must, for some years a small concern in a comparatively small town, compelled by its isolated position to manufacture its own gas and unable to avail itself of those economies of manufacture and distribution which companies in the larger municipalities invariably command, it cannot be expected to meet or successfully compete with them in price.

The Board recommended that on and after the first day of September, 1912, the net price charged for gas sold by the Plymouth Gas Light Company shall not exceed \$1.65 per 1,000 cubic feet. (August 7.)

NATICK PETITION.

This is a complaint under section 34 of chapter 121 of the Revised Laws, by more than 20 customers, against the Natick Gas Light Company, praying for an improvement in quality and reduction in price.

The public hearing required by law was held in Natick, at which the petitioners were represented by a committee of the Natick Commercial Club and the company by certain of its officers.

Complaints were submitted at the hearing by numerous customers residing in different sections of the town that the gas

was poor. Upon investigation, it appeared that, while the gas, with rare exceptions, had been above the legal standard of candle power, the supply had been inadequate, with the result that many consumers had been unable to obtain the quality of light or heat to which they were entitled. While this difficulty was due in part to an unusual accident at the works which for a short time interfered with the normal ability of the company to supply, it was principally caused by faults in the construction of the distribution system, which have since been remedied.

So far as the Board was able to ascertain, the causes of the difficulties described at the hearing had been removed and no order against the company relative thereto appeared to be necessary. If they shall reappear in any part of the company's system, they will doubtless be due to local causes only. The Board, whenever advised of the company's failure to remedy such condition after complaint, will be prepared to give such case its immediate attention.

This company was organized in 1873 for the purpose of supplying illuminating gas in the town of Natick, and was ready to supply gas about two years later. The population of Natick, which at that time was about 6,500, has since increased to nearly 10,000. Since its organization the ownership of the company has changed several times, but until recently none of the various groups holding control have managed it successfully.

In reviewing its affairs in a decision upon a similar complaint in 1906, when the maximum net price was fixed at \$1.75, the Board made the following statement: —

This company is to be classed with the smaller companies in the State, having annual sales of about 10,000,000 feet. It is within the territory of the Edison Electric Illuminating Company of Boston, and sells its gas in competition with the supply of electric light by that company. Its profits have never been extravagant, and its dividends have been low. It has never paid more than 6 per cent., oftener only 5. For a series of years it paid no dividends, and has recently been paying only 4 per cent.

In this decision, after some comparison of the abilities of such a company with others much larger, the Board further said: —

These facts make it practically impossible for the smaller company to supply as cheaply as the larger one. Such conditions, however, stimulate the smaller company to the greatest practicable economy in all its operations, a conservative policy respecting its capital charge, and a steady endeavor to increase its output by a reduction in price as often as the profits will allow the assumption of the risk which may be incident to such reduction. Such a policy, steadily pursued, we believe will produce the most equitable and the most satisfactory results both for the company and its customers.

For many years prior to 1900 this company maintained a differential rate for the larger consumers only slightly below the maximum net. In that year, with a maximum net rate of \$1.90 for gas for lighting, a special net rate of \$1.50 was made for power and cooking purposes.

The reason for this action lay apparently in the desire of the management at that time to make a more attractive and practicable rate for those who might desire to use gas for cooking or manufacturing purposes, with the hope of increasing the company's output, and of making it possible, through the reduction in average costs thereby secured, to reduce the maximum net price. As a result of this policy the sales at the \$1.50 rate, which in the first year after its adoption were slightly over 1,500,000 feet, had increased in the year 1910 to 7,500,000, which was more than 50 per cent. of the entire output. In fact, practically the only increase in sales during that period was at the \$1.50 rate.

Following the suggestion in the Board's decision, already referred to, and aided by the increased sales, the company reduced the maximum net price in 1908 to \$1.70 and in 1910 to \$1.65. At the same time the annual dividends to shareholders rose to 6½ per cent. The policy of decreasing the maximum net price until a uniform price for all purposes should be reached was being steadily pursued, and was proving a recognized benefit to the company and the public.

It seems to be true that, while the company's policy in the active exploitation of the gas stove business at the differential rates led to the satisfactory results described, it was also productive of a certain amount of complaint from consumers. The company, yielding at first to the solicitation of those who, hav-

ing a gas stove installation only, wanted to use a single additional burner for lighting through the same meter, later found that this practice had almost imperceptibly extended, until certain customers were obtaining all their lighting at the fuel rate, and those on whose premises the two-rate system of charge was strictly maintained complained that they were unfairly discriminated against because of the lighting rate which they were compelled to pay. The company was frequently burdened with the installation of two meters for the same customer, one for lighting and the other for fuel, the increased cost for installation, maintenance and care, as well as for accounting and billing incident thereto, and with the difficulty of demonstrating to dissatisfied customers the reasonableness of such a differential.

In January, 1911, nearly all the outstanding stock passed to new owners. As was reasonable to expect, the new management held new views as to the best method of conducting the affairs of the company, but in putting these views into practice the operating costs were increased. This fact, combined with the difficulties just described, seemed to invite a readjustment of rates. As a reduction of the maximum net price for lighting purposes seemed to the management to give no reliable promise of the additional income desired, the rate for gas stove use was advanced to the maximum net price, although the rate for manufacturing purposes was not disturbed. This action was followed by this complaint to the Board, and it was distinctly stated at the hearing that but for the change in policy, of which it was significant, this complaint would not have been brought.

Evidently this advance in price failed to provide the income sought to meet the changed conditions in the company. In the two years ending with June 30, 1912, while meter sales for all purposes increased by only about 300,000 feet, and the receipts therefrom less than \$1,000, the operating profits decreased nearly 50 per cent. It became evident that, if the reasons for the first advance were sound, another advance might with equally good reason be demanded.

Even if it be within the Board's province, it is unnecessary to discuss at this time the expediency of the particular changes in method to which the additional costs under the present management are attributable. It is true the costs were decreased in

some directions, but they were much more largely increased in others. That a profit reasonably satisfactory to the former management was possible at the rates then existing had been amply demonstrated, nor is it likely that these profits would have been seriously or permanently disturbed by further reductions of the maximum net rate in harmony with the suggestions of the Board, already quoted, and in pursuance of the original purpose when the fuel rate was first established. Indeed, it was probably due to the expectation of an early attainment of a uniform price that the discriminatory conditions which have been described were allowed to develop. It is not unlikely that these conditions had become sufficiently fixed so that they could be cured in no other way.

In considering the purchase of the company and the introduction of the new business methods, the foregoing considerations ought not to have been overlooked by the new owners. It was their privilege to assume the risks incident to the course pursued, but an attempt to arbitrarily impose the unfortunate results upon the public would probably not have been made except for the possession of a monopoly. Operating as well as investment expenditures should be directly related to the needs and conditions existing in the community. Unnecessary expenditure in either direction must be at the risk of the owner. He is bound to have due regard to the needs and reasonable demands of the community to be supplied when deciding upon the necessity or advisability of expenditures proposed. A reasonable return presupposes reasonable costs, and reasonable costs are determined by a consideration of all the conditions surrounding the business. If a company's methods and general policy be unreasonably costly, or so obviously unwise as to decrease its earning power or check the growth of its business, these things may be of great importance in determining the amount of a reasonable return. Some of the increases in operating costs referred to are probably temporary only, and may not again occur. The reasons for increasing the expenses were insufficient to justify them, if thereby it became necessary to advance the price. While they may have satisfied the hasty judgment of the management, they added no distinctive value to the company's product.

In the opinion of the Board, under all the conditions surrounding the supply of gas in Natick, the price hereinafter named is sufficient to yield a reasonable return upon the value of the property actually and necessarily employed for the supply of gas in the territory which the company serves. The Board therefore recommended that on and after the first day of December, 1912, the net price of gas supplied by the Natick Gas Light Company shall not exceed \$1.50 per 1,000 cubic feet. (October 22.)

MALDEN PETITION.

This was a complaint in writing, under section 34 of chapter 121 of the Revised Laws, by the mayor of the city of Malden, of the price of electricity furnished by the Malden Electric Company to said city.

After due notice, a public hearing, as required by law, was held in Malden, at which the city was represented by its mayor and solicitor and the company by counsel. The complaint related to the price of electricity for street lights only, and the proceedings were confined to this issue.

The contract for street lights between the city of Malden and the company expired in June, 1911, but the company continued to operate the same lamps under the same conditions. The installation on June 30, 1911, consisted of 124 alternating-current, enclosed arc lamps operated at 6.6 amperes and 430 watts, and 22 50-watt tungstens burning all night and every night, or substantially 4,000 hours annually, and of 1,154 50-watt tungstens burning on a so-called moonlight schedule during the dark hours of every night, or substantially 3,100 hours annually. After June 30, 1911, the all-night incandescents were increased to 23 and the dark-hour incandescents to 1,172. Under the contract, the city paid the company \$2,824.28 per month for not less than 123½¹ arc lamps and 1,167 incandescent lamps, and for additional lamps at the rate of \$100 a year for each arc and \$18.75 for each incandescent. After June 30, 1911, the company charged the city \$96 a year for each arc lamp, \$20.80 for each all-night incandescent and \$18.30 for each dark-hour incandescent.

¹ One-half cost of 1 lamp paid by adjoining city.

A tentative draft of a new contract between the city and company was submitted in evidence, by which it appeared that the company had offered, prior to the filing of this complaint, to make a ten-year contract with the city for the same types of arc and incandescent lamps then in use, all burning all night and every night, for \$86.40 per arc and \$18.72 per incandescent per year, provided the city should use and pay for, throughout the period, not less than 123½ arc and 1,176 incandescent lamps. This proposed price was arrived at by taking \$96 and \$20.80, respectively, as base rates, and making a deduction of 1 per cent. for each year the contract might run.

It developed at the hearing that there was a desire on the part of the city authorities to substitute a different and more efficient type of arc lamp for that then in use. The mayor requested that the Board, if it should find that the present prices were too high, would determine what the city "ought to pay for a magnetite arc lamp operated with 310 average watts all night and every night." The Board ruled that it had authority, under the complaint and the statute applicable thereto, to reduce an existing price, but not to determine the type of lamp which the city should use, nor to establish a price for a distinctly new and nonexistent service for which no price had ever been made by the company.

It was suggested, however, that if the city, through those officers who had authority to do so, should decide to use the lamp mentioned or any other, and the company should make a price therefor, the Board would then proceed to make its decision relative to the new price and the new conditions. The company signified its willingness to be governed by this suggestion. Although there was subsequently some indication of a purpose on the part of the city government to adopt a different type of lamp, no such step was authoritatively taken, and the issue was the same at the date of the decision as it was at the time of the hearing, namely, the price of the street-light service operated with the same lamps and for the same hours as theretofore.

No attempt was made by either party at the hearing to demonstrate the fair price of the street lamps furnished by this company to Malden on the basis of the cost of this particular

service. Both sides confined their evidence and arguments to certain general considerations with respect to the company's affairs as related to the price of the street lamps, and the testimony offered by the expert employed by the city dealt merely with the efficiency of the type of arc lamp now used as compared with the magnetite lamp.

For reasons which the Board discussed at length in its recent decision as to the price of street lights in Worcester, it seemed neither practicable nor desirable in the present development of this company's business to undertake a determination, which must necessarily depend upon many purely theoretical considerations, of the cost of supplying the street lamps separate and apart from the cost of other divisions of the company's business.

Consideration may, however, be readily given to the fact that certain lines, lamps and fixtures are used and that certain operating expenses are incurred exclusively in the street-lighting service, and that there are elements of investment and maintenance cost which are peculiar to this system as distinguished from the strictly commercial business of the company. At the same time, the street-lighting system has perhaps the best load factor of any customer, and, if differentials from the maximum price to private customers are to be made for load factor, the street lighting may reasonably be entitled to the same kind of consideration. The Board is of the opinion, furthermore, that street lighting is so intimately associated with every other part of the company's business that prices for street lamps should not be fixed without some consideration of the conditions surrounding the entire business of the company, and that in this case the city should not be charged more for the electricity required to operate its incandescent street lamps than the maximum net price charged private customers.

This company is engaged in the supply of electricity not only in Malden but also in the cities of Everett, Medford and Melrose. While this territory is largely residential, there is a very considerable amount of industrial activity throughout the district, especially in Malden and Everett.

For its supply the company had a plant with a book value on June 30, 1912, of \$1,289,057, and other assets amounting to \$174,815, against which it had outstanding capital stock of

\$525,000, bonds of \$100,000, notes of \$423,225 and other debts amounting to \$39,797. A substantial proportion of the notes were issued to meet the cost of putting its wires underground in Malden.

The business of the company has been steadily increasing, and during the past five years its earnings have been more than sufficient to cover its expenditures for repairs and renewals, dividends to its stockholders and such allowance for depreciation as the management has deemed advisable, as the following table will show: —

	Net Earnings available for Interest, Dividends and De- preciation.	Interest.	Dividends.	De- preciation Charges.	Balance.
1908,	\$84,610 64	\$18,269 05	\$38,250	\$4,951 55	\$23,140 04
1909,	106,259 30	20,321 86	42,580	—	43,357 44
1910,	111,336 61	15,324 57	52,500	10,500 00	33,012 04
1911,	114,271 67	15,469 29	52,500	15,384 22	30,918 16
1912,	125,438 85	19,375 85	78,750 ¹	17,751 64	9,561 36 ²

¹ Includes an extra dividend of 5 per cent.

² Had not the extra dividend been paid this would have amounted to \$35,811.36.

During this period, while the prices for street lamps in Malden have remained unchanged, the company has reduced its maximum net price of electricity from 15 to 13 cents on Aug. 1, 1909, to 12 cents on July 1, 1910, and to 11 cents on July 1, 1911. The above figures make it evident that these reductions in price have caused the company no embarrassment. What the Board said in the Worcester case, where somewhat similar conditions existed, seemed also applicable here: —

The company's customers may be broadly divided into two groups, — those who are dependent upon the company for their supply and those who may readily supply themselves in other ways or by other forms of power. To the first the company may dictate the price controlled only by motives of business expediency, its own sense of justice and its duty as a public servant. To the second the company must so fix the price as to secure the customer's business, or else go without it. The variety and wide range of the prices offered by the company is ample evidence of its recognition of these facts. The city with respect to its municipal arc system plainly belongs to the first class.

While the company is entitled to a fair return upon the property which it is actively and necessarily employing for the public convenience, the income from its entire business is ample to justify the extension to the street-lighting rates of the same policy of price reduction that it has applied to its commercial output.

The Board recommended that on and after the first day of November, 1912, the price of the 6.6 ampere enclosed arc lamps burning all night and every night, supplied by the Malden Electric Company to the city of Malden, so long as not less than 123 of said lamps are so supplied, shall be not more than \$85 per lamp per year; the price of the 50-watt tungsten incandescent street lamps burning all night and every night, so long as not less than 23 of said lamps are so supplied, shall be not more than \$18 per lamp per year; and the price of the 50-watt tungsten incandescent street lamps burning not less than 3,100 hours a year, so long as not less than 1,172 of said lamps are so supplied, shall be not more than \$15.50 per lamp per year. (October 23.)

HAVERHILL PETITIONS.

These were two complaints in writing, under section 34 of chapter 121 of the Revised Laws, of the price of gas sold by the Haverhill Gas Light Company, one by the municipal council, which under the provisions of chapter 574 of the Acts of 1908 has the authority of mayor, and the other by more than 20 customers of the company.

After due notice public hearings were held in Haverhill, at which the municipal council, the company and its customers were respectively represented by counsel. Both complaints were heard together.

Counsel for the company moved to dismiss both complaints because of estoppels alleged to exist against the complainants in each case, and this motion should be disposed of before considering the cases on their merits.

In 1910 the municipal council, after protracted negotiations with the representatives of the Haverhill Gas Light Company, granted what it termed a "franchise and consent" to a new corporation, organized by the same interests and known as the Haverhill Gas Company. This grant was upon the condition,

among other things, that the new company should sell gas to the city and its inhabitants at certain prices named, and that until the new company should acquire the property of the old the latter should observe and perform all the conditions in the grant. This grant contained also the condition that the old company should rebate to its customers the amounts paid by them during the year ending June 30, 1910, in excess of 90 cents a thousand, and should deposit \$21,000 with a trustee in trust for this purpose. The old company accepted the conditions of this grant, reduced its price to 90 cents on July 1, 1910, and to 85 cents on July 1, 1911, and deposited the \$21,000 for the purpose stated. Twenty-six of the 32 signers of the customers' complaint received such rebate, and the other 6 are fewer than the number required for a valid complaint. These facts were relied upon as the ground for the estoppels.

The history of the old company between 1899 and 1911, so far as concerns the decree of the Board ordering a reduction in price, the resulting litigation and the disposition thereof in 1910, has been given at considerable length in the Board's decision with respect to a proposed issue of stock by the new company, and need be no more than referred to here.

At the time of the acts constituting the alleged estoppels the company was charging its private consumers \$1 a thousand, and the validity of an order of this Board in 1900 requiring a reduction of its price to 80 cents was being contested by the company in the federal courts. The municipal council had two courses open to it, either to await the results of that litigation or to take the action requisite to acquiring a municipal gas plant. It chose the latter course, and passed the first vote necessary thereto. Had it taken a second favorable vote, and had the voters of the city ratified that action, the company might then have elected to sell its plant to the city, and the order of the Board relative to the price of gas would have had no binding force in determining the price to be thereafter charged by the city.

The negotiations above referred to were had after the first vote of the municipal council and before a second vote was taken, and resulted in the grant by the council of the so-called "franchise and consent," with the express purpose of author-

izing a new company, the Haverhill Gas Company, to acquire and operate the plant then owned by the old company, the Haverhill Gas Light Company. The terms, conditions and restrictions set forth in this grant, and rehearsed verbatim in contracts in which both the new and the old companies were expressly required to observe and perform them, so far as they related to price, provided not that the companies shall charge no more, but that the companies "shall be entitled to demand and receive" the prices named therein. The facts also are undisputed that the requirements in the grant as to price, and indeed every other requirement, have been fully performed and observed, save perhaps that one whereby the property when acquired by the new company was to be capitalized at "not exceeding its fair value at the time of acquisition." The only alleged breach with respect to capitalization is not that too great an amount of capital has been issued for the property of the old company, since none has been issued, but that the company applied to this Board for the approval of an issue in excess of what the municipal council believed to be its full value.

It is difficult to read the terms of this grant in 1910 without being convinced that the council then intended to prescribe the price to be thereafter charged for gas both by the old and the new company, and to permit prices to be charged higher than the price determined and ordered by the Board in 1900, although well aware of that order. It is also clear that the old company, having the choice of continuing the litigation or of accepting the terms, conditions and restrictions imposed in the so-called "franchise and consent," chose irrevocably the latter course.

During the hearings there was a good deal of bitter and acrimonious discussion of "good faith and fair dealing." The Board has not intended to enter the field of this discussion. The public and the parties must judge that matter for themselves. The question for the Board to determine was how far, if at all, as a matter of law, the municipal council of 1911 was bound by the action of the municipal council of 1910. Had the council possessed in 1910 the authority to prescribe the prices to be thereafter charged by either company to the extent set forth in said grant, the Board is of the opinion that nothing has since

happened which would prevent the council of 1911 from being estopped from prosecuting this complaint. But the serious difficulty is that the council did not have any express authority to fix the price of gas in Haverhill. No action by local officials can in any way restrict or qualify the authority expressly vested in this Board by the Legislature to interfere to reduce a price. The council's action with respect thereto was at best but the expression of the opinion of its members, entitled to weight because of their official position, but controlling only to the extent to which they in fact represented the sentiments of the inhabitants of the city, and not necessarily conclusive. It is for this reason that the Board believes that, notwithstanding the action of the municipal council of 1910, the council of 1911 was not legally estopped from prosecuting this complaint.

It was urged that those consumers who accepted rebates for gas bought prior to June 30, 1910, under the trust referred to, became thereby participants in the arrangement as to price, so that they individually could no longer complain of the price charged, provided the same conformed to the price fixed therein. The answer made to the other claim is a sufficient answer to this. If it were not, the mere fact that the complainants accepted from the old company something which may have been either their due or a gift, amounts of itself to neither an express nor implied waiver of their rights thereafter to complain under the statute of the price charged.

The Board was obliged to approach the issue presented by these complaints upon its merits, without regard to the propriety or impropriety of the attempted settlement of the question in 1910. Any other course would be likely to lead to a futile attempt either to restore conditions as they existed prior to 1910 or to adjust doubtful equities relating wholly to the past rather than to the future. While recognizing the force of the company's argument that, inasmuch as the new price had been in effect less than a year, there should be no interference on the part of this Board until it had been tried out sufficiently to prove whether or not it is a fair price, it must be remembered that this price was arrived at manifestly as a part of an attempted compromise and settlement of a long-standing con-

troversy. As this attempt failed, the matter was left, as far as the future was concerned, as though no compromise and settlement had been undertaken, and this were a new and original complaint as to price, as in fact it was.

The Haverhill Gas Light Company supplies gas in Haverhill, serving a population of about 44,000. The works of the company are located near the heart of the city, on about an acre of land along the banks of a small stream which flows into the Merrimac. It owns an additional half-acre lot on the other side of the stream, not at present used for its business. About a third of a mile away, towards the northerly outskirts of the city, it owns a lot of five acres, on which are gas holders of 1,000,000 and 400,000 feet capacity, respectively, with some smaller structures pertinent thereto. On Merrimac Street, the chief mercantile street of the city, the company owns a brick office building which it has hitherto leased, hiring premises elsewhere for an office and supplies store. The company has avowed its intention to occupy this building for its own purposes as soon as the present lease expires.

Until 1891 the company made coal gas exclusively, but since 1893 it has made only illuminating water gas. The present owners, who acquired control in 1909, have extensively reconstructed and enlarged the manufacturing plant, discarding the old and introducing a different type of apparatus, increasing the daily generating capacity from about 840,000 to upwards of 2,000,000 feet.

The original capital stock, issued soon after the company was chartered, in 1853, was \$50,000, and this was increased in 1872 to \$75,000. This represents the entire amount of capital contributed directly by the stockholders. When the present owners acquired control of the company, in 1909, it had notes outstanding of \$5,500 in addition to about \$15,000 in current accounts payable and customers' deposits. For the subsequent rehabilitation and extension of the generating and distributing plant the outstanding notes were increased prior to June 30, 1911, by about \$270,000. On June 30, 1911, the company's return to the Board exhibited assets amounting to \$1,219,871.17, divided as follows: —

Plant, book value,	\$834,089 22
Certain investments, including 30 shares of its own stock,	28,529 44
Merrimac Street office building,	17,000 00
Cash,	41,742 37
Other current assets,	81,644 72
Loans to Haverhill Gas Securities Company,	216,865 42

No deduction has been made from the book value of the plant because of property abandoned or displaced in the recent reconstruction. The relations of the Haverhill Securities Company to the Haverhill Gas Light Company, under which it owned substantially all the stock of the latter, have been described in the Board's decision relating to an issue of stock by the new company. The above item of loans represents the amount of money turned over to the Securities company by the Gas Light company, apparently for the purpose of enabling the former to pay interest at the rate of 5 per cent. on \$500,000 of its bonds, for which the stock of the Gas Light company was pledged as security.

From 1885, when the company began making returns to the Board, up to June 30, 1896, it paid regular dividends of 10 per cent. annually. In the next four fiscal years it paid dividends of 13, 50, 20 and 30 per cent., respectively. From 1900 to 1909, while making the loans described to the Securities company, it declared no dividend. Since June 30, 1909, under the management of the present owners, the company has neither paid dividends nor made loans to the Securities company, although having earnings available therefor which are exhibited later in this decision.

Owing to the inadequacy of the company's method of accounting prior to 1886, it is impossible to determine reliably the original cost of the property which it now owns and is employing for the public convenience. From as early at least as 1876 it was the practice of the company to charge the expenditures for its construction above its outstanding stock to profit and loss, paying for all improvements out of earnings, so that when its first return was made to this Board in 1885 the plant was carried at a book value of \$75,000. Testimony was submitted at the hearings that the gross amount expended for construction prior to that year was \$196,500. The available surplus

earnings shown by the returns from 1886 to 1909 indicate that in those years approximately \$380,000 was expended for construction. During the two following years the present owners claimed to have expended over \$280,000 in the reconstruction and extension already referred to. These figures indicate a total original expenditure of over \$850,000 for construction in the nearly sixty years of the company's existence, but in order to ascertain the original cost of the present plant there must necessarily be deducted the cost of buildings, mains and apparatus torn down, taken out or abandoned. The amount of this deduction is unquestionably substantial. Indeed, the witnesses for the company estimated that the reproduction cost of the property discarded in the recent reconstruction of the works would be \$75,000. The total deduction throughout the company's history must greatly exceed this figure, but cannot now be ascertained.

In some cases and under some conditions the market value of a company's stock may offer some indication of the actual value of its property. In this instance, however, the capital stock of the company has been withdrawn from the market ever since it became, in 1899, the property of the Haverhill Gas Securities Company, and was pledged as security for that company's bonds. The present owners, in order to acquire this stock, which constituted the entire assets of the Securities company, expended in 1909, as the evidence showed, for all the stock and bonds of the latter company, \$602,523. There is no other indication of the market value of the Gas Light company's stock.

It is interesting to note, as affecting local official opinion of the value of the company's property, that in 1909 the city assessors valued its entire plant for the purpose of taxation at \$458,200. In 1911 this valuation was increased to \$665,825. More than \$150,000 of this increase was due to a revaluation by the assessors of the land and buildings, as against an expenditure therefor by the company during the period of less than \$60,000. This valuation appears to have yielded to the city for taxes in 1911 substantially \$13,000, which is the amount which the so-called "franchise and consent" granted by the municipal council to the Haverhill Gas Company in 1910 stipulated should be paid by the company in 1911. How far this

fact may have influenced the assessors must be matter of conjecture only. The assessed valuations were not discussed at the hearings, nor were the assessors called upon to testify as to the basis for their figures.

Much of the time of the hearings was taken up in an attempt by each side to determine the present value of the company's property. Two witnesses for the company submitted valuations based, with the exception of the two tracts of land containing the generating and storage plant, which were taken as valued by the city assessors, upon their judgment of the present market value of the land and buildings, and the cost to reproduce new, item by item, all the buildings and other structures, machinery and apparatus, mains, meters and services as they were when reconstruction began, and which were to be retained in use after reconstruction, with a deduction from such cost of the estimated depreciation which each item had suffered. Another witness testified generally as to the structural value of the plant in 1909, employing the assessors' valuations for the land and without reference to the proposed reconstruction. These valuations were, respectively, \$580,341, \$543,563 and \$617,430, and included varying sums for engineering, interest during construction, contingencies and omissions, — figures for these items being, in the first total named, \$96,724; in the second, \$121,687; and in the third, \$56,000. All of these valuations employed figures for land and for some other items which the records show to be much in excess of their original cost. It is also true that the company's property seems to have been developed without distinct expenditure for engineering and kindred items, or, if any sums have been so paid, they have been reckoned as a part of the cost of gas and been provided out of income. To each of the totals named above were added \$50,000 for working capital, and to the second, \$29,613 more was added for supplies and materials. The total amounts thus obtained are, in consequence, \$630,341, \$622,176 and \$667,430, respectively. The last figure includes the property abandoned in the reconstruction, and valued by the company at \$75,000, and if it be corrected accordingly this total will be \$592,430. Between 1909 and 1911, the period of reconstruction, the company added to its plant accounts \$282,535, included in which is a

liberal amount for distinctively engineering services. If this expenditure is added to the amounts submitted by the company's witnesses, corrected, as already described, their total figures will become \$912,876, \$904,711 and \$874,965, respectively.

The valuation submitted in behalf of the city was \$464,741, in which is included an item of \$26,306 for engineering, interest, etc. It was based on what a purchaser, wishing to do the business and having the right to do it without competition, would pay for the property rather than build a new plant. In consequence, certain items in the company's schedule of its property do not appear in the city's valuation at all. The land valuation is not of the land actually owned and occupied by the company, but the probable cost of land suitable in size and location for a gas works, but away from the heart of the city. The valuation is also made as of June 30, 1911, when the reconstruction and extension of the plant had been substantially completed. To this valuation was added the sum of \$20,000 for working capital, but a deduction of \$36,172 was also made from the figures otherwise arrived at because of the claim that the company's generators and holders exceed present needs. This makes the final figures submitted in behalf of the city \$448,569.

Aside from the differences between the two valuations, indicated by the items and theories stated, there are important differences in the unit costs upon which the valuations of the buildings, machinery, pipes and labor were computed. Assumptions as to the weight of pipes underground, the size of service pipes and the allowance for depreciation of the various parts of the entire plant varied materially. These differences of detail, owing to the multitude of items, lead inevitably to very substantial differences in results. The city's estimate of the replacement cost of the mains is low in comparison with the recent experience of other companies under the Board's supervision, but the character of such underground construction, long since buried, must be to some extent matter of conjecture rather than demonstration.

The valuation made for the city seems to have been affected by an opinion that the works are poorly located for that development which the future may require, and to allow less than the

otherwise fair value of the present generating plant because it is too large for the present needs. The reasons given, however, for continuing to use the present site show clearly that no change of location can advisedly be made until long after the time to which rates now made will apply. The Board cannot, in the general interest of consumers, discourage the reasonably liberal provision for the future which this company seems to have made, neither can it concede the company's claim that franchise or going-concern value should form a part of that property on which a reasonable return should be based.

In this connection it may be noted that the present owners had no detailed appraisal made of this property before they purchased the stock and bonds of the Securities company. They are a firm whose wide and varied experience in the purchase, construction, management and sale of similar properties is well known. One of its members testified that it was not the practice of the firm to make detailed appraisals before purchasing such properties or the securities representing them, and that, in forming their judgment of what they were willing to pay therefor, certain general factors, such as the output, earnings, territory supplied, experience of company, what might be done in developing the property, etc., were employed, and seemed to him more reliable than a detailed appraisal, although in this State probably a purchaser would also have to consider how large a rate of return he would be allowed to earn and pay on his investment.

The company's returns exhibit its annual operating expenses in detail as required. It was contended in behalf of the complainants that the operating expenses as shown prior to the advent of the present owners, and the reconstruction and extension of the plant, are of little value in determining what may be reasonably expected in the future. This was especially urged as to the cost of manufacture because of the increased economy and efficiency to be secured by the changes in method and in the works equipment. The city's witness testified in detail as to what, in his judgment, would be the reasonable expense of operating the plant, exclusive of repairs, renewals, maintenance and depreciation. In this estimate he omitted any allowance for maintaining gas arcs on the premises of private consumers and

naphtha lamps on the streets, on the ground that these matters were not a part of the company's public duty, and should not be considered in determining the cost of the gas supplied to its customers generally. For similar reasons he allowed but one-half cent per thousand cubic feet sold for the cost of selling and caring for gas stoves. He also omitted any allowance for rent of offices because the company owned a suitable office building, or for bad debts because this item he believed to be properly a deduction from income, and in any event to be in practice more than offset by the loss of prompt payment discounts. In his judgment the company's actual cost for management and office expenses was too high. His total computation of the reasonable cost at the customer's burner, exclusive of repairs, renewals, maintenance and depreciation, was 46 cents a thousand. To this he added 11 cents to cover the items excluded. Of this 11 cents he testified that 3 cents should cover ordinary repairs and renewals as distinct from maintenance and depreciation.

Computations submitted by the company for another purpose used an annual allowance for depreciation of 6.6 cents. It was urged in final argument for the complainant that this was a suitable allowance for depreciation, and that the reasonable cost at the burner should not exceed 55 cents a thousand cubic feet.

In behalf of the company an estimate made in 1910 for the guidance of the local manager as to what might reasonably be expected was submitted. It was made up from a minutely itemized division of the operating expenses. The cost at the burner based on this estimate was 56.97 cents, exclusive of repairs, renewals and maintenance. These items were estimated at 3.07 cents, and a further allowance for depreciation was estimated at 8.5 cents. If the company's estimate for the items omitted or reduced by the city's witness had been used by him, his figure of 46 cents would have been 59.04. On the other hand, had his views with respect to the contested items prevailed with the company, its estimate of 56.97 would have been cut to 43.93.

The year ending June 30, 1911, was occupied with the reconstruction of the company's works and distribution system, and therefore may possess in many respects abnormal features, yet

its experience during this year is of some value as bearing upon the reasonable cost of the gas supplied by it. The year ending June 30, 1912, represents another full year's operations under more normal conditions. The total operating cost at the burner in these two years was, respectively, 70.99 and 62.99 cents, and these figures are likely to be somewhat increased in the current year by the advance in price of oil. Included in these figures are expenditures for repairs and renewals of 4.51 and 6 cents, respectively. For both of these years there is included in the office expense an item for rent of offices which exceeds somewhat the rent received for the office building owned by the company, already described. With this item excluded, as was suggested by the city, 1.18 and .96 cents, respectively, would be deducted from the figures just given. Such of these expenses as are incidental to the company's main purpose, or may tend to promote the interests of its consumers, may properly be included in a reasonable operating cost.

In order that the company's actual operations may be more clearly understood, its gross earnings from all sources and its net earnings available for depreciation, interest and dividends for the past five years are given below, together with its output. The gross and net earnings for 1910 and 1911 have been corrected by \$19,345.24, the amount of the rebate actually paid in the second year to make the reduction in price to 90 cents effective as of July 1, 1909. Certain extraordinary expenses incidental to this controversy have not been considered in exhibiting the net earnings for 1911 and 1912. These changes give the following results:—

YEAR TO JUNE 30.	Gross Earnings.	Net Earnings.	Total Sales of Gas (Feet).
1908,	\$197,457 ¹	\$56,347	187,501,000
1909,	203,389 ¹	61,038	191,448,800
1910,	197,070 ²	41,668	203,362,600
1911,	208,695 ²	56,663	214,149,300
1912,	215,983 ³	64,226	235,160,500

¹ Maximum net price for gas \$1 a 1,000 cubic feet.

² Maximum net price reduced to 90 cents as of July 1, 1909.

³ Maximum net price reduced to 85 cents on July 1, 1911.

The consideration of depreciation raises some of the most subtle and complex questions incident to rate making, and, while it has been extensively discussed and numerous theories advanced, the Board is not aware that any satisfactory rule for its determination applicable to companies generally has been laid down. The problems which it involves are necessarily individual to every company, although affected by general considerations. It has an important relation to the physical condition and value of the property which is entitled to a return, and to the provision in future earnings when fixing a reasonable price. Assuming the property provided by the stockholders has been kept in good condition, any future depreciation allowance is the measure of those demands which intelligent management and a wise foresight find necessary for maintaining that property at its normal efficiency. Anything less than this will tend to injure the stockholders; anything more may unjustly burden consumers. In the ordinary conduct of a company, to correctly deal with this subject requires of the manager a complete familiarity with all its property, its condition and its relation to the prospective demands of the community, an adequate knowledge of and receptive interest in the progress of the art and the exercise of his best ability in all these directions. The problem is primarily for the manager rather than with the engineer or accountant, although both of these may contribute their aid. All parts of a plant, excepting land, suffer constant depreciation, though it may be imperceptible to the untrained observer. Provision for depreciation is only designed to keep a plant good. It is as necessary a part of the cost of carrying on the business as the expense for coal or wages. Although it was this item upon which the parties were most nearly in accord, the Board hesitates to fully accept their view. In view of the constantly changing ratio of output to plant value, it is difficult to adopt any rule which fixes a certain definite amount per thousand feet for a proper depreciation charge, which may be applied to all companies or to the same company at all times. Moreover, the amount of this charge may be materially affected by the degree of liberality with which repair accounts are treated.

In the company's experience no uniform or consistent rule has been followed. If 6.6 cents throughout the company's history be used, over \$170,000 would be required for the purpose up to June 30, 1911. If the claim that this is too low be recognized, and 8 cents be adopted, the amount would be \$250,000. Assuming gross construction charges of substantially \$850,000, as before described, the present value based on cost would be that amount less the aggregate for depreciation. All these propositions were given weight in considering the allowance for future depreciation. Under all the circumstances the Board believes that the company can well afford to qualify the emphasis placed upon this item until at least it has begun to more positively reap the benefit of its recent reconstruction expenditures and other activities, and its output is closer to the present capacity of the plant.

The company contended that a fair price should cover its operating expenses, an allowance for depreciation and a fair return upon the value of its property at the time the controversy arose, including its franchise and privileges; that such value may be proved by actual cost and reproduction cost of its property and amount and market value of its stock and bonds; and that the fixing of a price which will not afford a fair return upon such value amounts virtually to a taking from its owners. Taking its actual cost of 62 cents, allowing 8 cents for depreciation and a return of 22 cents, or 6 per cent., on \$900,000 for the value of its property and annual sales of 250,000,000 feet, the company claimed that a fair present price would be 92 cents, and that the reduction which might come with an increased output was already anticipated in the price of 85 cents which it had already offered.

The city urged that the fair price depends upon (1) the cost at the burner (including a proper allowance for repairs, renewals and depreciation), and (2) a capital charge based upon the capital stock duly issued, and not necessarily upon the value of the property owned by the company. Using its figures of cost already stated, and allowing 3½ cents a thousand, or a return of 10 per cent. upon the capital stock outstanding, it suggested that 60 cents was a fair and liberal price.

The questions of law and public policy raised by these claims

are of great importance and were argued on both sides with conspicuous ability.

It will be noted that the city's claim makes no provision for a return upon the debt incurred for the admittedly necessary reconstruction and extension of plant by the present owners. A fair allowance for this, however, fails to reconcile the difference between the parties. This difference seems to rest primarily on a radically different conception of the law applicable to a case where there is such an exaggerated disparity of capital stock to assets, and in which these assets have been accumulated in such large measure from earnings. Based only upon the existence of the unusual surplus and the comparison of its former prices with those now prevailing, the city alleged that the company for many years charged excessive prices, and that this extortion should not go unpunished. The company denied that its prices had been excessive, and claimed that its surplus was built up because the company refrained for many years from dividing all the earnings which might have been legally and properly declared in dividends.

It is perhaps idle now to speculate upon the motives of the original owners. So far as their acts may be material it seems probable that they paid in dividends all that they deemed it expedient to distribute, and that they maintained as high prices as their business prudence, tempered by public opinion and prices charged elsewhere, dictated, with but a dim perception of the obligations resting upon them as purveyors of a public service. But in fixing a price for the future the Board cannot undertake to reconstruct the past according to some theory which might have maintained a more equitable relation between the company and its consumers.

Much was said of Massachusetts policy with respect to public regulation, and as this policy is disclosed primarily in legislative acts, it is perhaps desirable to review briefly the laws by which this policy has been expressed. The special act of 1853, by which this corporation was chartered, expressly provided that "no shares . . . shall be issued for a less sum or amount to be actually paid in on each, than the par value of the shares which shall be first issued." In 1855 a general law was enacted under which gas light companies might be organized in any city

or town, "provided that in such towns and cities of this Commonwealth as there may be existing gas companies in active operation, no additional similar corporation shall be organized unless the parties therein are inhabitants of said town nor unless the existing corporation shall have realized an annual yearly dividend on their capital stock of seven per cent for a period of five years," a provision which remained in force until 1870. In 1868 gas light companies were expressly prohibited from declaring "any stock dividend" or "dividing the proceeds of the sale of stock among its stockholders," or creating "any additional new stock" or issuing "certificates thereof . . . unless the par value of the shares so issued is first paid in cash to the treasurer of such corporation," these provisions still remaining in force unchanged. In 1873 any additional shares of stock were required to be sold at public auction, and, if a premium were realized, only such a number of shares were to be sold as would produce the necessary amount. In 1885 this Board was established, with authority, upon complaint, to order reductions in the price of gas and upon appeal to prevent a second gas company from laying pipes in the streets of a city or town in which a gas company exists in active operation; to compel a supply and to require annual returns from the companies for the purpose of disclosing their condition and operations. In 1891 cities and towns were authorized to acquire municipal gas plants, but a municipality voting so to do was compelled to purchase any existing plant within its limits at the option of the owners thereof, at "its fair market value for the purposes of its use, no portion of such plant to be estimated, however, at less than its fair market value for any other purpose, including as an element of value the earning capacity of such plant based upon the actual earnings being derived from such use at the time of the final vote of such city or town to establish a plant and also any locations or similar rights acquired from private persons in connection therewith, plus the damages suffered by the severance of any portion of such plant lying outside of the limits of such city or town. . . . Such value shall be estimated without enhancement on account of future earning capacity or good will or of exclusive privileges derived from rights in the public streets."

The provision relating to present earning power as an element of value was stricken out in 1893, and that relating to "locations or similar rights" in 1903, but otherwise this law remains substantially unchanged. In 1894 the so-called "anti-stock watering" law was passed, whereby a gas light company may issue only "such amount of stock as . . . the board of gas and electric light commissioners . . . may from time to time vote . . . is reasonably necessary for the purpose for which such issue . . . has been authorized," and additional stock, instead of being sold at auction as provided in the 1873 act, was to be offered to the stockholders "at not less than the market value thereof at the time of increase, to be determined . . . by the board of gas and electric light commissioners . . . taking into account previous sales of stock of the corporation and other pertinent conditions." This last provision was changed in 1909 so that the price at which an increase of stock is offered to the stockholders may be fixed at not less than par by the directors, "unless the board is of opinion that such price is so low as to be inconsistent with the public interest," in which event the Board may fix the price.

This review of the acts of the Legislature indicates an early recognition of the business as a virtual monopoly, and imposes upon it a considerable measure of restraint, supervision and regulation. The legislative purpose to prevent the issue of stock for anything besides cash, or, in the earlier years, property actually contributed by the stockholders, is plain. The prohibition of stock dividends, and the provisions for the sale of additional stock at auction or its distribution to the stockholders at its market value, or, as now, at a price not so low as to be inconsistent with the public interest, are also indications of an early and consistently maintained purpose to prevent surpluses accumulated out of earnings becoming the basis, directly or indirectly, for the issue of stock.

On the other hand, it is equally to be noted that no specific limitation has ever been placed upon rates or dividends with a view possibly of rewarding zeal in the skillful and intelligent conduct of the business, and imposing upon the directors, subject to the check of public opinion, a consideration of the welfare of the shareholders and the equities of consumers in

the surplus to which they had contributed. As market value is influenced by the rate of dividends declared, the requirement that additional stock shall be issued at a premium seems also an acknowledgment that dividends may be paid on the par of the stock at a rate in excess of the return ordinarily required by investors for the use of their money. The fact that this last feature of the law has been preserved long after an express authority was granted to this Board to reduce the price of gas is significant, too, of a legislative view that these two methods of regulation are not inconsistent. This body of legislation is plainly designed to allow no capital stock to be issued save for physical property necessary for proper corporate purposes, to keep the authorized increase of capital stock as low as market and other conditions warrant, to compel publicity of corporate affairs, and, on the other hand, to secure the community from the wasteful effects of competition by the exclusion of others from territory already adequately and efficiently supplied, and to provide, upon complaint, a compulsory reduction in price, and so to create a status favorable to low rates and adequate service. There is nothing in this legislative policy which violates or countenances the violation of the company's constitutional right to "a fair return upon the value of that which it employs for the public convenience."

In deciding a complaint as to price, the Board is bound to consider all the facts which may seem to have a bearing upon the company's affairs and the way in which it performs its public duty, but the Board is not, in its judgment, in the consideration of a proper return, required to exclude any property of the company necessary for the welfare of the public and actually used therefor, although it may have been provided by the investment therein of surplus earnings accumulated in past years; nor is it required, in order to escape the charge of confiscation, to ignore the company's history, the limitations, legal or otherwise, under which its property has been acquired, or, in effect, to capitalize that property upon the same basis as if it had reached its present status under different conditions.

In view of the fact that this company has borrowed its present floating debt at an average rate not exceeding $4\frac{1}{2}$ per cent., and stocks of successful gas companies in this State are con-

tinually traded in on nearly as favorable basis, the Board is clearly of the opinion that the allowance of a return upon the total investment of less than 6 per cent. is not subject to the charge of confiscation.

The Board gave, so far as it is aware, careful attention to all the facts and theories urged by the parties. It reached its conclusion in the light of all the facts and considerations set forth. The issue is the reasonable and fair price, and the soundness of the Board's decision must rest not in a mathematical demonstration but in the correctness of the Board's judgment upon all the facts. The several valuations set forth by the parties with such "delusive exactness," to borrow Mr. Justice Holmes' recent words, should be of itself sufficient to show that rate making has not yet achieved the position of an exact science. The Board believes that the price hereinafter named is fair and reasonable, and will be sufficient to cover all reasonable operating costs, a reasonable allowance for depreciation and a fair return upon the value of the property which the company is actually and necessarily employing for the public convenience.

The quality of service was not an issue raised by the complaints, but considerable stress was given at the hearing to the actual and the proper gas pressure, candle-power and purity, the city claiming that by reason of certain practices of the present management the recent reductions in price had not correspondingly benefited consumers.

It appeared not only by the evidence submitted by the company but by the Board's tests that the company had been conforming to the established standards, and had in fact been supplying a gas of purity and illuminating power above the requirements of the law. The criticism about pressure was based not on individual complaints of poor service but on the theory that the pressure should not exceed one and one-half inches. The Board had occasion in 1908 to consider a similar claim with respect to a company somewhat similarly located so far as the topography of the territory supplied is concerned. It reached the conclusion in that case that while an absolutely uniform pressure that would enable the customer to use his gas under the most efficient and economical conditions is highly

desirable, yet that in most cases it is not wholly practicable without an expense out of all proportion to the benefits gained. It is, however, the duty of the company to maintain as nearly as possible such a pressure at a customer's service as will secure to him reasonable efficiency in the use of the gas he buys, and, if it fails to do so, any customer may bring this fact to the attention of the Board, which will be prepared to exercise its authority to correct such condition.

The Board recommended that on and after the first day of February, 1913, the net price for gas sold by the Haverhill Gas Light Company shall not exceed 80 cents a thousand cubic feet. (December 31.)

Consolidations.

MALDEN AND MELROSE-STONEHAM CONSOLIDATION.

This was a joint application by the Malden and Melrose Gas Light Company and the People's Gas and Electric Company of Stoneham for the determinations by this Board, required by chapter 529 of the Acts of 1908, relative to the consolidation of the latter with the former company.

After due notice a public hearing thereon was held as required by law. Accompanying the application was an agreement between the two companies for such consolidation, with certified transcripts from the records of both corporations, from which it appeared that the terms of the proposed consolidation had been approved at meetings called for the purpose by votes of more than two-thirds in interest of the stockholders of each of the contracting companies, and that the application was filed within four months after the passage of said vote.

The Malden and Melrose Gas Light Company is a corporation duly organized in 1854 under a special act authorizing it to make and sell gas in Malden and Melrose. In 1856 it was duly authorized to extend its pipes into Medford and West Cambridge. In 1870 Everett was set off from Malden. The company is now actually engaged in the business of selling gas in Malden, Melrose, Medford and Everett and has its mains in each of said municipalities.

The People's Gas and Electric Company is a corporation organized in 1896 under the general laws of the Commonwealth for the purpose of "manufacturing, buying and selling

gas and electricity for the purpose of supplying light, heat and power in the town of Stoneham and vicinity, and manufacturing, buying and selling gas for the purpose of supplying light and heat in the town of Reading and vicinity; buying, owning and leasing the apparatus and real estate necessary therefor, and generally doing any and all things legitimately pertaining to said business or incidental thereto." It has never made or sold electricity. At the time of this application it was actually engaged in the business of selling gas and had its mains for that purpose in Stoneham, a municipality contiguous to Malden, Melrose and Medford. These mains have recently been connected with the mains of the Malden company at the Melrose line, and the latter company is now furnishing gas to the People's company. The last-named company has also mains in Reading, the town adjoining Stoneham on the north, but its mains in Reading are not physically connected with its mains in Stoneham.

The People's company was organized to take over the property in Reading and Stoneham formerly owned and operated by the Citizens' Gas Light Company of Reading, South Reading and Stoneham. The latter company, prior to 1894, had a manufacturing plant in Wakefield (formerly South Reading) and was engaged in distributing gas in Wakefield, Reading and Stoneham. In 1894 the town of Wakefield took over the gas works and distributing system situated within the limits of that town and since then the Citizens' company, and later its successor, the People's company, have supplied gas in Reading and Stoneham generated and furnished by the Wakefield municipal plant. This at the date of the hearing was the source of the gas distributed by the People's company in Reading.

In 1896 the Citizens' company went into a receiver's hands, and after the organization of the People's company the latter was authorized to issue stock of the par value of \$100 per share to the amount of \$15,000, of which the proceeds of 50 shares were to be applied to the payment and cancellation of a mortgage note for \$5,000 secured by a mortgage of the Citizens' company's property in Reading, and the proceeds of the remaining 100 shares to the purchase of all the assets of that company wherever situate, subject only to an issue of bonds in 1895 to the amount of \$45,000, secured by mortgage of its property in

Stoneham, authorized for the purpose of purchasing certain land in Stoneham and erecting thereon a gas works and extending its distributing system. This purchase was consummated and 100 shares of capital stock were issued by the People's company to provide the purchase price. The 50 shares were never issued. The generating plant, for which the \$45,000 bonds assumed were in part issued, was never constructed. The mortgage securing these bonds was subsequently foreclosed, and at the time when the present owners acquired control early in February, 1911, a release was obtained from the purchaser at the foreclosure sale and a release also of the \$5,000 mortgage of the Reading property.

Since the present owners acquired control of the property, they have constructed a main to the Melrose line in order to connect the Stoneham distributing system with the Malden company's generating works. They have also made considerable extensions of the company's mains and services in Stoneham. For this purpose they expended, prior to Oct. 31, 1911, more than \$30,000, and an issue of stock to this amount was approved simultaneously herewith. On that date the company had a plant with a book value of \$50,834.75 and other assets valued at \$16,343.12, a total of \$67,177.87; against which there were outstanding a capital stock of \$10,000 and debts amounting to \$56,631.02. Of its plant, the value of its distributing system in Reading was stated to be \$9,576.35. The company, however, had no express authority from the selectmen of Reading to maintain its mains in the public streets of that town, and stated that it could obtain none. The town voted in 1891 and 1892 to acquire a municipal gas plant, although it has not yet exercised the authority thus conferred. The Malden company will, of course, succeed to all of the duties and rights in Reading which the People's company now has.

By the terms of the proposed agreement, which is dated Oct. 31, 1911, the consolidation was made to depend upon the issue of \$30,000 additional capital stock by the People's company and the application of the proceeds thereof to the payment of its indebtedness. In the event of the issue of this additional stock by the People's company the consolidation was to be effected by the issue of 400 shares of additional capital stock by the Mal-

den company and its exchange, share for share, for the capital stock of the People's company, and the latter, if so requested, was to execute and deliver to the former a conveyance of all of its property and franchises. By an order simultaneously adopted the Board authorized the Malden company to issue 400 additional shares of capital stock for this purpose. Under this arrangement the aggregate amount of the capital stock and the aggregate amount of the debt of the two companies will not be increased by reason of the consolidation.

The physical relation of the two companies has already been described. The service rendered by the People's company has been unsatisfactory in price and, prior to the expenditure above described, inadequate for the convenience of the territory which it has served. It has paid no dividends and has never succeeded entirely in emerging from the financial embarrassments which wrecked its predecessor. It was stated that if the consolidation is effected the Malden company will put its regular price into effect in Stoneham. This means a substantial reduction of 60 cents in the maximum net price to the gas consumers of Stoneham. The advantage of this to the town is obvious, and the consolidation was urged at the hearing on behalf of the selectmen. No similar offer was made with respect to Reading. The Board is also of the opinion that the consolidation proposed will bring no disadvantage to the territory already supplied by the Malden company, and that the facilities for furnishing and distributing light, heat and power will not be diminished by reason of such consolidation. The following was therefore adopted: —

In the matter of the application of the Malden and Melrose Gas Light Company and the People's Gas and Electric Company of Stoneham for the determinations relative to the consolidation of the latter with the former, required by the provisions of chapter 529 of the Acts of 1908, as amended by chapter 316 of the Acts of 1909: —

The Board of Gas and Electric Light Commissioners, after notice and a public hearing and upon due consideration thereof, hereby determines that the facilities for furnishing and distributing light, heat and power will not by reason of said consolidation be diminished; and that said consolidation and the terms thereof, as set forth in said application and in the agreement thereto annexed, are consistent with the public interest. (May 20.)

FOXBORO—UNION CONSOLIDATION.

This was a joint application by the Foxboro Electric Company and Union Electric Light Company for the determinations by this Board, required by chapter 529 of the Acts of 1908, relative to the purchase by and sale to the Foxboro company of the franchise and property of the Union company.

After due notice a public hearing was held thereon as required by law. Accompanying the application was an agreement between the two companies for such purchase and sale, with certified transcripts from the records of both corporations, from which it appeared that the terms of the proposed purchase and sale had been approved at meetings called for the purpose by votes of more than two-thirds in interest of the stockholders of each of the contracting companies, and that said votes were passed within four months prior to the filing of this application.

The Foxboro Electric Company is a corporation duly organized under the general laws of this Commonwealth in 1903 for the "manufacture and sale of electricity." It purchased the electric plant and business of a partnership known by the same name, which had been engaged in the supply of electricity in Foxborough since 1898. Until 1910 it supplied electricity during the dark hours of the day only. In 1910, by vote of all of its stockholders, its purpose was changed to "the manufacture, purchase and sale of electricity for light, heat and power and for generating and selling steam or hot water for heating, cooking and mechanical purposes." In that year the control of the company passed to the same interests which own the Standard Gauge Manufacturing Company, which has a factory located in Foxborough. Arrangements were made for the purchase of the generating plant owned by the latter company, and the Foxboro company instituted a twenty-four hour service. In 1911 the control of the Foxboro company passed to new owners who, at the same time, acquired control of the Union company. Incident to this transaction the generating plant acquired by the Foxboro company from the Standard company was resold to the latter. The former company, however, continued to obtain its supply of electricity from the latter, until a transmission line to Franklin to connect with the central station of

the Union company was constructed by that company with a view of supplying electricity to Foxborough through Franklin. The original generating plant of the Foxboro company has been dismantled, but it owns and operates lines for the distribution and sale of electricity in the town of Foxborough, and is actually engaged in that business.

The Union Electric Light Company was organized under the general laws of the Commonwealth in 1889, with an authorized capital of \$20,000, for the purpose of "doing a general lighting, heating and power business; that is to say, the business of producing, using and supplying light, heat and power generated by electricity in the town of Franklin, Mass., and doing all things necessary and incidental to the prosecution of said business." In 1909, by vote of all of its stockholders, its charter was so amended as to enable it to do business in the towns of Bellingham, Wrentham and Norfolk. Prior to 1911 its stock was owned or controlled by the same interests owning or controlling the Woonsocket Electric Machine and Power Company of Rhode Island. A transmission line was built from the Union company's station in Franklin to the State line, connecting with a transmission line from that point to the power station of the Woonsocket company. Since the construction of this transmission line in 1909 the Union company has purchased its electricity from the Woonsocket company. Its generating station in Franklin, however, has not been dismantled. In 1911 the control of the Union company passed to the interests which acquired the Foxboro company. It had under construction on Nov. 1, 1911, the transmission line to Foxborough already mentioned. It has supplied electricity in Franklin and Norfolk, the latter a town contiguous to Foxborough, and is proposing to extend its lines into Wrentham. On Nov. 1, 1911, it had a plant with a book value of \$129,365.89, and other assets amounting to \$10,373.41, against which it had outstanding a capital stock of \$20,000, bonds of \$20,000 and notes and debt amounting to \$95,110.52. By an order adopted simultaneously herewith the Board authorized this company to issue additional capital stock of the par value of \$73,800 for the payment and cancellation of the entire amount of its bonds, notes and debt outstanding on Nov. 1, 1911.

The agreement between the two companies hereinbefore mentioned was somewhat modified at the suggestion of the Board after the application was filed. By the agreement as amended the Union company undertakes to sell to the Foxboro company its franchises and all of its plant and other assets as the same stood on Nov. 1, 1911, together with all property and assets acquired after that date, free from all encumbrances or debt save such as may have been incurred in the ordinary course of business meantime, and the Foxboro company undertakes to issue and exchange its capital stock, share for share, for the capital stock of the Union company as the same will be when the 738 shares above mentioned shall have been issued by the latter company. The Union company is then to be dissolved. By an order simultaneously adopted the Foxboro company was authorized to issue 938 shares of additional capital stock for the purpose of effecting this purchase. Under this arrangement the aggregate amount of the capital stock and the aggregate amount of the debt of the two companies will not be increased by reason of such purchase and sale.

Both of the companies in question have had a somewhat precarious existence. The Foxboro company paid dividends of 10 per cent. in each of the years 1907 and 1908, and 6 per cent. in each of the years 1909 and 1910. The Union company has paid no dividends since 1897. Both companies own what are virtually distributing plants merely, and plan to purchase their electricity from some outside source. Upon the completion of the connecting transmission line between Foxborough and Franklin the plants of the two companies will become integral parts of one distributing system, and it may reasonably be expected that one larger company will have greater ability to serve the territory. It also appeared at the hearing that there was reason to believe that by enterprise and skill the business in this territory could be greatly increased. The Board was of the opinion that the purchase and sale in question will increase the facilities for furnishing and distributing light, heat and power in the territory served by these companies. The following was therefore adopted:—

In the matter of the joint application of the Foxboro Electric Company and the Union Electric Light Company for the determina-

tions relative to the purchase by and sale to the former company, required by the provisions of chapter 529 of the Acts of 1908, as amended by chapter 316 of the Acts of 1909: —

The Board of Gas and Electric Light Commissioners, after due notice and a public hearing and upon due consideration thereof, hereby determines that the facilities for furnishing and distributing light, heat and power will not, by reason of said purchase and sale, be diminished; and that said purchase and sale and the terms thereof as set forth in said application and in the agreement, a copy of which was filed with the Board on May 24, 1912, are consistent with the public interest. (June 3.)

SPRINGFIELD—CHICOPEE CONSOLIDATION.

This was the joint application of the Springfield Gas Light Company and the Chicopee Gas Light Company for the determinations relative to the consolidation of the latter with the former, required by the provisions of chapter 529 of the Acts of 1908, and the application of the Springfield Gas Light Company for the approval of an issue of 1,110 shares of additional capital stock for the purpose of effecting such consolidation.

After due notice, a public hearing, as required by law, was held on these applications at Springfield. At this hearing the cities of Springfield and Chicopee were represented by their respective solicitors, and the latter also by its mayor, and the company was represented by counsel. Subsequently, at the request of the mayor and aldermen of Chicopee, the hearing was reopened in Boston, and the mayor and all of the aldermen of Chicopee were present at this hearing.

Annexed to the application for consolidation was the agreement of the two companies to consolidate, together with certified transcripts from their records, from which it appeared that the terms of the consolidation were approved at meetings called for the purpose by votes of more than two-thirds in interest of each of the contracting parties, adopted within less than four months prior to the filing of said application.

The Chicopee company had its mains and was supplying gas in Chicopee and in that part of South Hadley known as South Hadley Falls. The Springfield company had its mains and was supplying gas in Springfield, West Springfield, Agawam, Ludlow and Longmeadow. Springfield, West Springfield and Ludlow are municipalities contiguous to Chicopee. In 1908 the

mains of the Chicopee company were connected with the mains of the Springfield company at the boundary line between the two cities, and thereafter the Chicopee company purchased from the Springfield company all of the gas supplied to the former's customers. In 1910 the stock of the Chicopee company was acquired by the interests controlling the Springfield company. On Oct. 31, 1911, the Chicopee company had a plant with a book value of \$324,655.99 and other assets carried at \$38,345.55, against which it had outstanding a capital stock of \$166,500, bonds of \$60,000, notes of \$90,000 and other miscellaneous obligations amounting to \$7,331.42.

By the agreement for the consolidation of these two companies, to which reference has already been made, it was provided that, if the Chicopee company was authorized to issue additional capital stock of the par value of \$55,500, in accordance with an application pending therefor, and the proceeds thereof were applied to the payment of an equal amount of its indebtedness, then the Chicopee company should consolidate with the Springfield company, and the latter company should issue 1,110 shares of its capital stock and exchange the same for the entire capital stock of the Chicopee company, on the basis of one share of the Springfield for two shares of the Chicopee company's stock. To consummate the consolidation the Chicopee company was also to make a conveyance of its property and franchise to the Springfield company. By an order simultaneously adopted the Chicopee company was authorized to issue additional capital stock of the par value of \$55,500.

The plants in the adjoining cities of Springfield and Holyoke have enjoyed a volume of business several times that of the Chicopee company, and have been able, from the great difference in their circumstances, to sell gas at a profit at a much lower price than a company like the Chicopee, operated independently, can reasonably be expected to do. After the physical connection of the mains of the Chicopee and Springfield companies already described, and the subsequent community of interest in their capital stock, the two companies were operated as integral parts of one system, with some advantage to the customers of the Chicopee company. The proposition to make this physical union complete by the legal merger of the two

corporations was, in the opinion of the Board, of distinct advantage to the public interest. It was also clear that the facilities for furnishing and distributing light, heat and power would not thereby be diminished.

The mayor and aldermen of Chicopee objected to the consolidation unless the company would immediately make the price there the same as that prevailing in its other territory, namely, 85 cents. The price charged by the Chicopee company was \$1.25, and the company stated at the hearing that the management intended immediately upon consolidation to reduce the price to \$1.15 net. The question of price was involved in this proceeding, not perhaps primarily but incidentally to the question of the expediency of a union of the two companies. From an examination of its annual return it was difficult to see how the Chicopee company, if it remained independent, could be required to sell at less than the price then charged. The proposed consolidation will give an obvious advantage to consumers in Chicopee even if the reduction from present rates be no greater than was offered at the hearing. If, however, the company can make a price still lower without prejudice to the interests of its other customers, it may properly be asked to do so. In other words, the Chicopee consumers are entitled immediately upon the consolidation to the lowest reasonable price which the company can make. In fixing such rate many different conditions must be considered. While the Board was unable to consider all the pertinent facts with the same thoroughness as might have been done if a reduction in price had been the only issue involved, it was of the opinion that the company might be reasonably asked to reduce its net price immediately upon consolidation to consumers in Chicopee to \$1 a thousand feet. While this price may be reasonable for a limited period, it would be entirely unreasonable as a permanent differential. The benefits accruing from such a consolidation are seldom realized immediately, but are progressive in their character. If, beginning with the price named, further reductions are made as conditions permit, the interests of all consumers will be promoted, and in due time a uniform price will undoubtedly be established throughout the entire territory of the united company. The following was therefore adopted: —

In the matter of the application of the Springfield Gas Light Company and the Chicopee Gas Light Company for the determinations relative to the consolidation of the latter with the former, required by chapter 529 of the Acts of 1908, as amended by chapter 316 of the Acts of 1909, and also in the matter of the application of the Springfield Gas Light Company for the approval by the Board of an issue of 1,110 shares of additional capital stock for the purpose of effecting such consolidation: —

The Board of Gas and Electric Light Commissioners, after notice and a public hearing and upon due consideration thereof, hereby determines that the facilities for furnishing and distributing light, heat and power will not by reason of said consolidation be diminished; and that said consolidation and the terms thereof, as set forth in said application and in the agreement thereto annexed, are consistent with the public interest.

And, for the purpose of effecting said consolidation, after notice and a public hearing, it being deemed by the Board that the said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Springfield Gas Light Company, in conformity with all the requirements of law relating thereto, of 1,110 shares of additional capital stock, of the par value of \$100 each, and of the exchange of the same for the entire capital stock of the Chicopee Gas Light Company upon the basis of one share of the stock of the Springfield Gas Light Company for two shares of the Chicopee Gas Light Company, and that said shares and the proceeds thereof shall be used and applied to no other purpose. (July 24.)

EDISON OF BOSTON—WESTON CONSOLIDATION.

This was a joint application by the Edison Electric Illuminating Company of Boston and the Weston Electric Light Company for the determinations by this Board, required by chapter 529 of the Acts of 1908, relative to the purchase by and sale to the former of the franchise and property of the latter company.

After due notice public hearings were given as required by law. Accompanying the application were certified transcripts from the records of both corporations, from which it appeared that the terms of the proposed purchase and sale had been approved at meetings called for the purpose by votes of more than two-thirds in interest of the stockholders of each company, and that said votes were passed within four months prior to the filing of this application.

The Weston company had its lines and was supplying electricity in Weston, Sudbury and Wayland. The Edison company had its lines and was supplying electricity in Wayland, and also in Lincoln, Waltham, Newton, Natick and Framingham, municipalities contiguous to those supplied by the Weston company.

The stock of the Weston company had recently been acquired in behalf of the Edison company with a view to its union with the latter. At the time of this purchase the Weston company had outstanding a capital stock of \$30,000 and notes to the amount of \$26,200, and its plant and other assets were carried at a book value of about \$91,000. The stock of the Weston company was purchased for \$300 per share, or \$90,000 in all. By the votes passed by the two companies as above referred to the Weston company was to convey to the Edison company all of its property and franchise for the sum of \$112,000 in cash and the assumption by the Edison company of the cost of any additions to plant made subsequent to April 1, 1912. The notes and other debt of the Weston company other than the cost of such additions were to be retired at the time of the transfer, and the company was then to be liquidated. As a part of an issue of additional capital stock, the application for the approval of which was pending, the Edison company proposed to raise the \$112,000 necessary for this purchase by the issue of a sufficient number of shares at \$215 to realize this amount. This would require additional capital stock of the par value of \$52,000, approximately equivalent to the outstanding capital and debt of the Weston company.

Section 4 of chapter 529 of the Acts of 1908, under which this application was brought, provides that the "purchasing . . . company may, for the purpose authorized in section two, increase its capital stock . . . in the manner and subject to the limitations provided by law." Chapter 392 of the Acts of 1906 provides that "when . . . an electric light company . . . consolidates with any other such electric light company . . . the aggregate amount of the capital stock and the aggregate amount of the debt of the consolidating companies shall not, by reason of such consolidation, be increased." Although the transaction in question was in form a purchase and sale, it was in substance and in effect a consolidation by which the corporate life, prop-

erty and franchise of the Weston company were to become merged in those of the Edison company. The Board was, therefore, of the opinion that the 1906 act applied to such purchase and sale.

It was contended in behalf of the companies that the limitation imposed by the 1906 act means that the aggregate capital as such may be increased or the aggregate debt as such may be increased, provided that the capital and debt taken together are not increased by reason of the consolidation. Granting that the language used is not free from ambiguity, the construction urged seems to ignore the obvious purpose of the Legislature to deal with aggregate capital stock and the aggregate debt as two separable and independent factors. The act is entitled "to prevent stock and debt watering by public service corporations," and it is true that the construction urged might prevent what is ordinarily termed "stock and debt watering." But the so-called anti-stock watering laws of this Commonwealth, as applied to public service companies, have had for many years as an essential feature the issue of additional stock at a premium where the market value of the stock justifies a premium. With this in mind, it is not difficult to see why the Legislature should treat capital stock and debt not as equivalents, but as independent factors, and should prohibit the increase of either in the event of a consolidation. Otherwise, as is obvious in this case, a debt for which an equal amount of stock at par could not be issued if the companies remained apart might by reason of the consolidation be represented in stock worth in the market considerably more than twice the full face value of such debt. For these reasons the Board was unwilling to approve of the issue by the Edison company of more than 300 shares of additional capital stock for the purchase of the Weston company. With this limitation, when the transaction is consummated the aggregate amount of the capital stock and the aggregate amount of the debt of the two companies will not be increased by reason of such purchase and sale.

Prior to this year the Weston company had been independently operated and had owned its own generating station. After its stock changed hands, a transmission line was built to connect its station with the Edison company's station in Waltham, and

the latter company thereafter supplied the former with electricity. The business of the Weston company was chiefly residential and street lighting. Its maximum net price for commercial lighting was 15 cents a kilowatt hour, and its charge for 50-watt tungsten street lamps, burning about 1,600 hours per year, had been \$12.50 per lamp per year. In the event of the consummation of the proposed purchase and sale the Edison company proposed to put into effect immediately its regular schedules of prices, making a maximum net rate of 10 cents a kilowatt hour for commercial lighting and a rate for street lights which, for the same lamp and hours of burning as heretofore, amounts to \$14.80 per lamp per year. A discount is offered in this street light schedule corresponding to the number of years for which a town is willing to contract for its street lighting. The town of Weston had no contract with the Weston company for its street lighting. This appeared to be true also of Wayland, while Sudbury had a contract which had about seven years to run. The town of Weston was supplied by 440 lamps of the type above described.

Counsel for the town of Weston and one of its selectmen appeared at the hearings to submit the foregoing facts and to protest against the purchase and sale, provided that the result was to increase the cost of its street lights. The Board appreciated the force of this consideration, yet it does not follow, even if this merger is approved, that the Edison company will be justified in increasing the price of street lights in the territory served by the Weston company. This question was not primarily involved in this application, but is one with which the Board has ample authority to deal whenever the occasion demands. The price for street lights the Weston company had for a considerable period found entirely adequate.

The increased ability of a large company serving a much greater population with a more diversified and thoroughly developed demand for electricity to provide adequate service at low prices as compared with a small company with a restricted territory and an equally restricted use of electricity, is so manifest that this is of itself a sufficient ground ordinarily to warrant approving their merger. It was for these reasons that the

Board believed that this purchase and sale was in the public interest. The Board was also of the opinion that this merger will work no disadvantage to the territory already supplied by the Edison company, and that the facilities for furnishing and distributing light, heat and power will not be diminished thereby. The following was therefore adopted: —

In the matter of the joint application of the Edison Electric Illuminating Company of Boston and the Weston Electric Light Company for the determinations relative to the purchase by and sale to the former company of the franchise and property of the latter company, required by the provisions of chapter 529 of the Acts of 1908, as amended by chapter 316 of the Acts of 1909: —

The Board of Gas and Electric Light Commissioners, after notice and a public hearing and upon due consideration thereof, hereby determines that the facilities for furnishing and distributing light, heat and power will not, by reason of said purchase and sale, be diminished; and that said purchase and sale and the terms thereof, as set forth in said application and in the votes, certified copies of which are thereto annexed, are consistent with the public interest. (August 6.)

EDISON OF BOSTON—HYDE PARK CONSOLIDATION.

This was a joint application by the Edison Electric Illuminating Company of Boston and the Hyde Park Electric Light Company for the determinations by this Board, required by chapter 529 of the Acts of 1908, relative to the purchase by and sale to the former of the franchise and property of the latter company.

After due notice a public hearing was held thereon as required by law. Accompanying the application were certified transcripts from the records of both corporations, from which it appeared that the terms of the proposed purchase and sale were approved at meetings called for the purpose by votes of more than two-thirds in interest of the stockholders of each company and that said votes were passed within four months prior to the filing of this application.

The Hyde Park company had its lines and was supplying electricity in that part of the city of Boston formerly Hyde Park. The Edison company had its lines and was supplying electricity in the adjacent portions of Boston and in all of the other munic-

ipalities contiguous to Hyde Park. Both of these companies are "electric light companies" within the definition of the act above cited.

The stock of the Hyde Park company had formerly been held by interests affiliated with the Bay State Street Railway Company, and a considerable portion of its business had been the generation and sale of electricity for street railway purposes. It had recently been purchased in behalf of the Edison company with a view to its union with the latter company. At the time of this purchase the Hyde Park company had outstanding a capital stock of \$287,500 and a large floating debt. Its stock was purchased at par; soon afterward the company sold its generating plant, with the exception of certain electric lighting dynamos and the engines connected thereto, to the Bay State Street Railway Company for \$285,000. This enabled the Hyde Park company to pay its ordinary notes to the amount of \$165,000 and to pay its stockholders a dividend of 40 per cent., amounting to \$115,000, in partial liquidation. On April 1, 1912, it had outstanding coupon notes for \$28,000 and other debts to the amount of \$8,928.27, and the book value of its plant and other assets, after the deduction of the power plant which had been sold prior to that date, was \$254,393.65.

By the votes passed by both companies, as hereinbefore described, the Hyde Park company was to sell to the Edison company all of its property and franchise for the sum of \$187,000 in cash and the assumption by the Edison company of the coupon notes for \$28,000 and the cost of any additions to plant made subsequent to April 1, 1912. The debt of the Hyde Park company other than the coupon notes was to be retired at the time of the transfer, and the company was then to be liquidated. As a part of an issue of additional capital stock, an application for the approval of which was pending, the Edison company proposed to raise the \$187,000 required for this purchase by the issue of a sufficient number of shares at \$215 to realize this amount. Under this arrangement when the transaction is fully consummated the aggregate amount of the capital stock and the aggregate amount of the debt of the two companies will not be increased by reason of such purchase and sale.

The advantage of this merger to the people served by the

Hyde Park company was so obvious as to require no extended comment by the Board. The close association of this company with the street railway interests never brought any advantage to its other customers either in rates or service. At the time of the decision they were paying a maximum net price of 13.5 cents a kilowatt hour, and upon the completion of the purchase and sale they became entitled to the Edison company's maximum net rate of 10 cents and other prices. The recent political union of Hyde Park with Boston makes it desirable, too, that this part of Boston as well should be served by the Edison company. The board was also of the opinion that this merger will work no disadvantage to the territory already supplied by the Edison company, and that the facilities for furnishing and distributing light, heat and power will not be diminished thereby. The following was therefore adopted: —

In the matter of the joint application of the Edison Electric Illuminating Company of Boston and the Hyde Park Electric Light Company for the determinations relative to the purchase by and sale to the former company of the franchise and property of the latter company, required by the provisions of chapter 529 of the Acts of 1908, as amended by chapter 316 of the Acts of 1909: —

The Board of Gas and Electric Light Commissioners, after due notice and a public hearing and upon due consideration thereof, hereby determines that the facilities for furnishing and distributing light, heat and power will not, by reason of said purchase and sale, be diminished; and that said purchase and sale and the terms thereof, as set forth in said application and in the votes, certified copies of which are thereto annexed, are consistent with the public interest. (August 7.)

Capital Stock and Bonds.

Thirty applications for approval of issues of capital stock and none of bonds have been decided during the year. The par value of the stock asked for was \$5,961,200,¹ and the par value of the amount approved was \$5,614,000. In 23 cases the full amount asked for was approved. One petition, by the Worcester Suburban Electric Company, was withdrawn. One petition was dismissed.

¹ Of this amount, \$288,000 was to cover stock of the Old Colony Gas Company previously approved but of which \$188,000 was not issued within the time prescribed by law.

The following table shows the securities approved by the Board for the several companies applying therefor, giving both the par value of the capital stock and the issue price thereof, determined as required by law; in the pages following will be found the several orders and votes of the Board relating thereto.

COMPANY.	CAPITAL STOCK APPROVED.			
	Amount at Par.	Issue Price.	Value at Issue Price.	Date.
Amesbury Electric Light Company,	\$14,700	\$100	\$14,700	Aug. 6
Amherst Gas Company,	50,000	100	50,000	Mar. 9
Arlington Gas Light Company,	150,000	100	150,000	July 25
Brockton Gas Light Company,	250,000	100	250,000	Aug. 6
Cambridge Gas Light Company,	240,000	200	480,000	Apr. 8
Chicopee Gas Light Company,	55,500	100	55,500	July 24
Dedham and Hyde Park Gas and Electric Light Com- pany.	14,200	60 ¹	17,040	June 5
Easthampton Gas Company,	100,000	100	100,000	July 26
Edison Electric Illuminating Company of Boston,	2,500,700	215	5,591,505	Aug. 7
Fitchburg Gas and Electric Light Company, . . .	163,700	85 ¹	278,290	Apr. 20
Foxboro Electric Company,	136,300	100	136,300	June 8
Gardner Gas Light Company,	77,000	100	77,000	May 31
Gloucester Electric Company,	70,000	120	84,000	Mar. 5
Haverhill Electric Company,	111,700	130	145,210	June 13
Lowell Electric Light Corporation,	153,400	150	230,100	July 18
Malden Electric Company,	107,000	145	300,150	June 15
Malden and Melrose Gas Light Company, . . .	40,000	100	40,000	May 20
Marion Gas Company,	30,000	100	30,000	Aug. 8
Old Colony Gas Company,	188,000	100	188,000	Feb. 2
People's Gas and Electric Company,	30,000	100	30,000	May 20
Salem Electric Lighting Company,	220,000	90 ¹	396,000	Jan. 8
Springfield Gas Light Company,	135,000 111,000	200 — ²	270,000 111,000	July 24
Union Electric Light Company,	73,800	100	73,800	
Ware Electric Company,	17,000	100	17,000	Mar. 1
Weymouth Light and Power Company,	50,000	100	50,000	July 10
Worcester Suburban Electric Company, . . .	125,000 200,000	100 100	125,000 200,000	Jan. 5 July 26

¹ Par value, \$50.
² Issued in exchange for capital stock of Chicopee Gas Light Company (see under "Consolidations" for decision).

PETITION OF THE WORCESTER SUBURBAN ELECTRIC COMPANY.

This was an application by the Worcester Suburban Electric Company for the approval of an issue of 1,250 shares of new capital stock of the par value of \$125,000.

It appeared at the hearing on this petition that the company had outstanding promissory notes to the amount of \$200,000, and also accounts payable for about \$31,000, a portion of which was on account of additions to plant. It also appeared that between June 30, 1910, and Sept. 30, 1911, \$152,000 had been expended for account of plant, and that on the last-named date about \$42,000 more would be needed to complete work then under contract. On Nov. 30, 1911, the company's notes had increased to \$230,000.

Some question developed at the hearing as to whether certain items of the expenditure stated above were properly capitalizable. In view, however, of an evident expenditure for new plant equivalent to the par value of the amount of stock named in the petition, the Board deemed it advisable to approve an issue of new stock to that amount, and reserve without prejudice the questions raised to be considered whenever the Board may be asked to pass upon the question of a further issue of stock. The following was therefore adopted: —

On the petition of the Worcester Suburban Electric Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$125,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Worcester Suburban Electric Company in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by its directors, of 1,250 shares of new capital stock of the par value of \$100 each, the proceeds thereof to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on the thirtieth day of September, 1911, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser" and the "Boston Evening Transcript," newspapers published in the city of Boston, and in the "Worcester Daily Telegram," a newspaper published in the city of Worcester. (January 5.)

PETITION OF THE SALEM ELECTRIC LIGHTING COMPANY.

This was an application by the Salem Electric Lighting Company for the approval of an issue of 5,000 shares of new capital stock of the par value of \$250,000, the proceeds to be applied in payment of the cost of additions to plant.

The promissory notes of the company outstanding on June 30, 1911, amounted to \$255,000, all of which appeared to have been issued on account of additions to plant except \$27,500, borrowed to enable the company to pay an extra dividend just before the control of the corporation was acquired by the present owners. Coupon notes for \$50,000, which were issued in May, 1901, to meet a part of the cost of plant additions previously made, and which were outstanding at the time of the hearing although since matured, are included in the ordinary promissory notes of the company above stated; so also is the cost of additional land bought during the fiscal year ending June 30, 1910, amounting to \$30,000, and an expenditure of nearly \$50,000 for underground conduits. The plans of the company contemplated an additional expenditure for underground work amounting to upwards of \$175,000. The following was therefore adopted: —

On the petition of the Salem Electric Lighting Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of 5,000 shares additional capital stock of the par value of \$250,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that the amount of stock hereinafter named is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Salem Electric Lighting Company, in conformity with all the requirements of law relating thereto, at the price of \$90 per share, as determined by the directors, of 4,400 shares of new capital stock of the par value of \$50 each, the proceeds thereof to be applied to the following purposes

and to no other, to wit: the proceeds of 2,527 shares to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on June 30, 1911, and the proceeds of 1,873 shares in payment of an equal amount of the obligations of the company incurred on account of the construction of underground lines subsequent to June 30, 1911.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Salem Evening News," a newspaper published in the city of Salem, and in the "Boston Daily Advertiser" and the "Boston Evening Transcript," newspapers published in the city of Boston. (January 8.)

PETITION OF THE OLD COLONY GAS COMPANY.

This was an application by the Old Colony Gas Company (formerly the Plymouth County Gas Light and Power Company) for the approval ("whether by amendment of the prior orders of the Board or otherwise") of the issue of capital stock of the par value of \$288,000, and bonds to an amount not exceeding the aggregate sum of \$192,000, for the purpose of constructing its gas works and distributing system and for any other lawful purpose.

By an order adopted on Aug. 4, 1911, amending a prior order adopted on Jan. 17, 1910, the Board authorized this company to issue 2,880 shares of its capital stock and bonds to the amount of \$192,000, "the proceeds of 2,700 shares of stock and of bonds to the amount of \$180,000 to be applied on account of the construction of a gas works in the town of Braintree and a gas distribution system in the towns of Weymouth, Braintree, Abington, Whitman and Rockland, and the proceeds of 180 shares of stock and of bonds to the amount of \$12,000 to be for working capital."

The capital stock of the company fixed by its charter is \$100,000, but this was increased by vote of the stockholders, on Dec. 15, 1911, to \$288,000. Between Jan. 17, 1910, the date of the Board's original order of approval, and Aug. 4, 1911, when that order was amended, the company issued 200

shares of stock. After Aug. 4, 1911, and under the authority of the amended order of that date, bonds to the amount of \$50,000 and shares of the par value of \$80,000 were issued. By an inadvertence on the part of the officers of the company the remainder of the shares approved by the Board were not offered to the stockholders after the vote to increase the capital stock and within sixty days after the final action of this Board, as required by law. It appeared at the hearing that this application was made to reaffirm so much of the authority given by the Board's approval on Aug. 4, 1911, as relates to the 1,880 shares of stock then approved but not issued, and sought no approval of additional stock or bonds.

After Aug. 4, 1911, the company undertook the construction of a gas works in Braintree and a distribution system in the towns of Braintree, Weymouth, Rockland, Abington and Whitman, as described in its petition and the hearing thereon. Late in December, 1911, it began the supply of gas in each of the towns named, and on December 30 it had outstanding \$100,000 of capital stock, \$50,000 of bonds, and notes payable to the amount of \$375,000. The following was therefore adopted: —

On the petition of the Old Colony Gas Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval (by amendment of the Board's order of Aug. 4, 1911, or otherwise) of an issue of new capital stock of the par value of \$288,000, and of bonds to an amount not exceeding the aggregate sum of \$192,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that the amount of stock hereinafter named is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Old Colony Gas Company, in conformity with all the requirements of law relating thereto, at the price of \$100 per share, as determined by its directors, of 1,880 shares of additional capital stock of the par value of \$100 each, the proceeds of said stock to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its notes payable outstanding on Dec. 30, 1911.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that

notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Evening Transcript" and the "Boston Post," newspapers published in the city of Boston. (February 2.)

PETITION OF THE WARE ELECTRIC COMPANY.

The Ware Electric Company applied for the approval of an issue of additional capital stock of the par value of \$40,000, to pay floating indebtedness incurred for new construction, extension and improvement of its plant, and to provide funds for future additions thereto. At the hearing, so much of the petition as related to stock for future additions was waived until plans for the same might be more fully determined.

On Jan. 14, 1904, the Board approved of an issue of stock to the amount of \$10,000 on account of the cost of a new generating station. The company had, meantime, completed this station and made a considerable extension of its distribution system. For this purpose it had expended in excess of the amount provided by the issue of stock referred to the full amount of \$17,000, represented in its notes outstanding on June 30, 1911. The following was therefore adopted:—

On the petition of the Ware Electric Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$40,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that the amount of stock hereinafter named is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Ware Electric Company, in conformity with all the requirements of law relating thereto, at the price of \$100 per share, as determined by its directors, of 170 shares of new capital stock, of the par value of \$100 each, the proceeds of said stock to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on June 30, 1911, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," a newspaper published in the city of

Boston, and in the "Springfield Daily Republican" and the "Springfield Daily Union," newspapers published in the city of Springfield. (March 1.)

PETITION OF THE GLOUCESTER ELECTRIC COMPANY.

This was an application by the Gloucester Electric Company for the approval of an issue of additional capital stock of a par value of \$75,000, to provide for expenditures incurred and to be incurred for the extension of its lines into Essex, the undergrounding of its wires in Gloucester and for additions to its generating plant.

Up to Dec. 31, 1911, the company had expended for the Essex extension about \$13,000, and \$55,000 for underground conduits and cables. The estimated cost of completing this underground work and the additions determined upon for the generating plant was about \$9,000 for the former and \$26,000 for the latter. The indebtedness on Dec. 31, 1911, on account of the work described consisted of notes payable for \$41,500 and an open account of \$8,900. The following was therefore adopted: —

On the petition of the Gloucester Electric Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$75,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that the amount of stock hereinafter named is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Gloucester Electric Company, in conformity with all the requirements of law relating thereto, at the price of \$120 per share, as determined by the directors, of 700 shares of new capital stock, of the par value of \$100 each, the proceeds of said shares to be applied to the following purposes and to no other, to wit: the proceeds of 416 shares to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Dec. 31, 1911, and its other indebtedness on open account by reason of the construction of its underground conduits; the proceeds of 75 shares for the cost of further construction and equipment incident to the placing of its lines underground; and the proceeds of 209 shares to the cost of additions to its generating plant made subsequent to the thirty-first day of December, 1911.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser" and the "Boston Evening Transcript," newspapers published in the city of Boston, and in the "Gloucester Evening Times," a newspaper published in the city of Gloucester. (March 5.)

PETITION OF THE AMHERST GAS COMPANY.

This was an application by the Amherst Gas Company for approval of an issue of additional capital stock of the par value of \$50,000, for the purpose of paying the floating debt incurred for new construction, extensions and permanent improvements to its plant.

On June 30, 1911, the company had outstanding promissory notes to the amount of \$67,919.87. Since the last approval of an issue of stock by this company, and prior to June 30, 1911, it had discontinued the use of its oil gas plant, had erected new works with machinery and apparatus suitable for making water gas and had made a considerable extension of its gas mains. It had also purchased additional real estate for its electric plant and extended its electric distributing system. Its expenditures for these purposes, in addition to the proceeds of stock previously approved, were represented in its promissory notes outstanding on June 30, 1911, and exceeded the amount of stock named in the order hereinafter set forth. The following was therefore adopted: —

On the petition of the Amherst Gas Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$50,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Amherst Gas Company, in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by the directors, of 500 shares of new capital stock of the par value of \$100 each, the proceeds of said stock to be applied to the payment of an equal amount

of the obligations of the company represented by its promissory notes outstanding on June 30, 1911, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Springfield, and that notice of the time and place of such sale shall be published in the "Springfield Daily Republican" and "Springfield Daily Union," newspapers published in the city of Springfield, and in the "Boston Daily Advertiser," a newspaper published in the city of Boston. (March 9.)

PETITION OF THE CAMBRIDGE GAS LIGHT COMPANY.

The Cambridge Gas Light Company applied for the approval of an issue of 3,000 shares of additional capital stock of the par value of \$300,000, the proceeds to be applied to existing debt and future additions to plant.

The company in the presentation of its case at the hearing suggested that its present requirements might be met by an issue of 2,400 shares. Included in the company's indebtedness on Jan. 31, 1912, was a mortgage note for \$400,000, given in 1907 and maturing in May, 1912, the proceeds of which were used for additions to plant. Further additions determined upon by the company were estimated to cost upwards of \$100,000. The following was therefore adopted: —

On the petition of the Cambridge Gas Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$300,000 for the objects named in said petition, after public notice and hearing, it being deemed by the Board that the amount of stock hereinafter named is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Cambridge Gas Light Company, in conformity with all the requirements of law relating thereto, at the price of \$200 per share, as determined by its directors, of 2,400 shares of new capital stock, of the par value of \$100 each, the proceeds thereof to be applied to the following purposes and to no other, to wit: the proceeds of 2,000 shares to the payment and cancellation of an equal amount of the obligations of the company represented by its mortgage note outstanding on Jan. 31, 1912, and the proceeds of 400 shares to the payment and cancellation of an equal

amount of obligations incurred on account of additions to plant made subsequent to the said thirty-first day of January.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Evening Transcript" and the "Boston Post," newspapers published in the city of Boston. (April 8.)

PETITIONS OF THE FITCHBURG GAS AND ELECTRIC LIGHT COMPANY.

These were two applications by the Fitchburg Gas and Electric Light Company for the approval of the issue of new capital stock, the first for stock of the par value of \$131,350, to pay floating indebtedness already incurred for new construction, extensions and permanent improvements, and to provide for additional plant, and the second for stock of the par value of \$32,350, to purchase the assets of the Wanoosnoc Power Company.

From June 30, 1909, to Sept. 30, 1911, the company expended upon additions to its plant in excess of the proceeds of stock previously approved therefor somewhat more than \$193,000. This amount was represented in the promissory notes outstanding on Sept. 30, 1911. A further net expenditure of over \$91,000 was contemplated to complete the unfinished construction which had been begun prior to that date, and to provide for other additions to the company's plant.

The Wanoosnoc Power Company is a corporation duly organized in 1893 under the laws of this Commonwealth for the purpose of "furnishing electric power for mechanical and manufacturing purposes." It had an outstanding capital stock of \$38,000. Its assets consisted of a hydro-electric generating plant with a normal capacity of 300 kilowatts, a dam and water privilege situated on a stream known as the Wanoosnoc, with the penstock, land and buildings connected therewith, a transmission line about $2\frac{1}{8}$ miles long extending from its generating plant to the factory of the Simonds Manufacturing Company in Fitchburg, and a 58 per cent. interest in the Leominster

Reservoir Company. The latter company was incorporated by chapter 124 of the Acts of 1853 for the purpose of “constructing, supporting and occupying a reservoir of water by means of dams in the towns of Leominster and Fitchburg in the county of Worcester for the supply of mills situated on the stream below said reservoir.” It has developed by means of two dams a natural pond emptying into the Wanoosnoc until its reservoir now covers about 200 acres and has a drainage area of something over 4 square miles. The Reservoir company does not appear to have issued any capital stock, but is owned by the parties owning the mill privileges on the Wanoosnoc in certain definitely established proportions.

The dam of the Wanoosnoc company is about 1 mile below the reservoir and the power station is about 3,600 feet below the dam. This dam is the second mill privilege developed below the reservoir. It appeared that the recent plant of the Wanoosnoc company may be expected to generate 573,000 kilowatt hours in normal years. The Wanoosnoc company was owned or controlled by the persons who own or control the Simonds Manufacturing Company. All of the electricity generated by the Wanoosnoc company had been supplied to the Simonds company, and, save to this extent, it had never actively engaged in the business of making or selling electricity for light, heat or power. The Wanoosnoc company had agreed to sell, and the Fitchburg company to buy, all of the plant and other property and assets of the former for the sum of \$55,000. The following was therefore adopted: —

On the petitions of the Fitchburg Gas and Electric Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of two issues of additional capital stock, the first of the par value of \$131,350, and the second of the par value of \$32,350, for the objects named in said petitions, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Fitchburg Gas and Electric Light Company, in conformity with all the requirements of law relating thereto, at the price of \$85 per share, as determined by the directors, of 3,274 shares of new capital stock, of the par value of \$50 each, the proceeds thereof to be applied to the

following purposes and to no other, to wit: the proceeds of 2,270 shares to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Sept. 30, 1911; the proceeds of 357 shares to the payment of the cost of additions to plant made subsequent to said thirtieth day of September, 1911; and the proceeds of 647 shares to be applied to the purchase, free and clear of all encumbrances, of all the plant, rights, privileges and other property of whatever name and nature owned by the Wanoosnoc Power Company on the fifth day of December, 1911, including therein not less than a 58 per cent. interest in the Leominster Reservoir Company.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," a newspaper published in the city of Boston, and in the "Fitchburg Sentinel" and the "Fitchburg News," newspapers published in the city of Fitchburg. (April 20.)

PETITION OF THE MALDEN AND MELROSE GAS LIGHT COMPANY.

This was an application by the Malden and Melrose Gas Light Company for the approval of an issue of additional capital stock of the par value of \$40,000, to enable the company to carry into effect a proposed consolidation of the People's Gas and Electric Company of Stoneham with the Malden company.

The proposed consolidation and its terms were considered and approved by an order adopted simultaneously herewith. In order to effect the consolidation, it was proposed that the Malden company should issue 400 shares of additional capital stock, and exchange the same, share for share, for the outstanding capital stock of the People's company, provided the same was meantime increased to \$40,000. An application by the People's company for an issue of \$30,000 additional capital stock was also considered and approved simultaneously herewith. The following was therefore adopted: —

On the petition of the Malden and Melrose Gas Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$40,000, for the objects named in said petition, after

public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Malden and Melrose Gas Light Company, in conformity with all the requirements of law relating thereto, of 400 shares of new capital stock, of the par value of \$100 each, and of the exchange of the same for the entire capital stock of the People's Gas and Electric Company of Stoneham, share for share, provided that before said exchange is made the People's company shall have issued the 300 shares this day approved by the Board, and have applied the proceeds in the manner and for the purpose designated by the Board in its decision. (May 20.)

PETITION OF THE PEOPLE'S GAS AND ELECTRIC COMPANY OF STONEHAM.

The People's Gas and Electric Company of Stoneham applied for the approval of an issue of additional capital stock of the par value of \$30,000, for the purpose of paying indebtedness incurred in the extension and improvement of the company's plant.

The owners of the stock of this company at the date of the petition assumed control early in the year 1911. Soon afterward the company constructed a main from its holder in Stoneham to the Melrose line in order to connect there with the mains of the Malden and Melrose Gas Light Company. The People's company also made a substantial expenditure in the extension of its distributing system in Stoneham. Its expenditures for these purposes considerably exceeded the amount of stock hereinafter approved, and on Oct. 31, 1911, were represented in its promissory notes, of which there were then outstanding \$45,000. The following was therefore adopted: —

On the petition of the People's Gas and Electric Company of Stoneham, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$30,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the People's Gas and Electric Company of Stoneham, in conformity with all the requirements of law relating thereto, at the price of \$100 per share,

as determined by the directors, of 300 shares of new capital stock, of the par value of \$100 each, the proceeds thereof to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Oct. 31, 1911.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Evening Transcript" and the "Boston Post," newspapers published in the city of Boston. (May 20.)

PETITION OF THE GARDNER GAS, FUEL AND LIGHT COMPANY.

This was an application by the Gardner Gas, Fuel and Light Company for the approval of an issue of additional capital stock of the par value of \$82,200, for the purpose of paying its outstanding bonded indebtedness and a portion of its floating debt, and for new equipment, extensions, additions and improvements to its plant.

The only securities previously approved for this company had been the issue of its original capital stock to the amount of \$26,200 in 1895 and bonds to the amount of \$15,500 in 1897. Meantime the company changed from an oil-gas to a water-gas plant, and made considerable extensions of its distributing system. Its expenditures for these purposes, not otherwise provided for, exceeded the sum of \$39,000, and were represented in its promissory notes outstanding on Dec. 31, 1911. In September, 1911, the present owners came into the control of the company, and of this sum of \$39,000 over \$10,000 was expended after that date and prior to Dec. 31, 1911, on account of a substantial increase of the distributing system undertaken but not finished on that date, and estimated to cost about \$33,000 when completed. The bonds amounting to \$15,500 were still outstanding, and its promissory notes on Dec. 31, 1911, were \$59,000. The following was therefore adopted: —

On the petition of the Gardner Gas, Fuel and Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised

Laws, for the approval of an issue of additional capital stock of the par value of \$82,200, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that the amount of stock hereinafter named is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Gardner Gas, Fuel and Light Company, in conformity with all the requirements of law relating thereto, at the price of \$100 per share, as determined by its directors, of 770 shares of new capital stock, of the par value of \$100 each, the proceeds of said stock to be applied to the following purposes and to no other, to wit: the proceeds of 155 shares to the payment and cancellation of all of the company's outstanding bonds; the proceeds of 390 shares to the payment and cancellation of an equal amount of the company's obligations represented by its promissory notes outstanding on Dec. 31, 1911; and the proceeds of 225 shares to the cost of additions to plant made subsequent to Dec. 31, 1911.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser" and the "Boston Evening Transcript," newspapers published in the city of Boston, and in the "Gardner News," a newspaper published in the town of Gardner. (May 31.)

PETITION OF THE FOXBORO ELECTRIC COMPANY.

The Foxboro Electric Company applied for the approval of an issue of additional capital stock of the par value of \$145,300, for the payment of liabilities incurred for additions to its plant, for the purchase of the franchise and property of the Union Electric Light Company and for providing funds for future additions to plant.

In 1910 the Foxboro company was authorized to issue 335 shares at par, the proceeds to be applied to acquiring, free and clear of all encumbrances, certain land, buildings, steam and electrical apparatus then owned by the Standard Gauge Manufacturing Company. These shares, however, were not offered to the stockholders by the directors within sixty days after action by this Board thereon, and all votes and proceedings relative thereto became void under the provisions of chapter 374 of the Acts of 1910. Prior to Nov. 1, 1911, however, the company had

made extensions of its distributing system costing somewhat more than \$5,000, which sum was represented in its promissory notes outstanding on that date.

After this application was filed and heard, the Union company filed an application for the approval of an issue of 738 additional shares of capital stock for the payment of its bonds and floating debt, and the two companies reached an agreement for the purchase by the Foxboro company of the Union company's franchise and property, so that said franchise and property was to be conveyed as of Nov. 1, 1911, free of encumbrances and debt, in consideration of the exchange, share for share, of its entire capital stock, as the same would stand after said new shares had been issued, for shares of the capital stock of the Foxboro company. By orders simultaneously adopted, the Union company was authorized to issue 738 shares of additional capital stock for the payment and cancellation of the entire amount of its bonds, notes and debt outstanding on Nov. 1, 1911, and the purchase by the Foxboro company upon the terms just described was approved.

Prior to Nov. 1, 1911, the Union company had begun the construction of a transmission line to connect the central stations of the two companies in Foxboro and Franklin. To complete this transmission line, and to construct contemplated distribution systems in Wrentham and Plainville, was estimated to require a further expenditure of over \$37,500. The following was therefore adopted: —

On the petition of the Foxboro Electric Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$145,300, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that the amount of stock hereinafter named is reasonably necessary for the purposes for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Foxboro Electric Company, in conformity with all the requirements of law relating thereto, of 938 shares of new capital stock, and of the exchange of the same, share for share, for the entire capital stock of the Union Electric Light Company as the same shall stand when the additional 738 shares of its capital stock, this day approved, shall have been issued and the proceeds thereof duly applied, said 938 shares to be de-

voted to the purchase by the Foxboro company of the franchise and property of the Union company free from all encumbrances and subject only to such debts as may have been incurred in the ordinary course of business since Nov. 1, 1911; and of the further issue by the Foxboro company, in conformity with all the requirements of law relating thereto, at the price of \$100 per share, as determined by its directors, of 425 shares of new capital stock of the par value of \$100 each, the proceeds thereof to be applied to the following purposes and to no other, to wit: the proceeds of 50 shares to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Nov. 1, 1911, and the proceeds of 375 shares to the cost of completing the Foxboro-Franklin transmission line, and of constructing distributing systems in Wrentham and Plainville.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Evening Transcript" and the "Boston Post," newspapers published in the city of Boston. (June 3.)

PETITION OF THE UNION ELECTRIC LIGHT COMPANY.

This was an application by the Union Electric Light Company for the approval of an issue of additional capital stock of the par value of \$73,800, for the purpose of paying indebtedness incurred for additions to plant and property.

Since the organization of this company in 1889, and its original issue of \$20,000 stock and \$30,000 bonds, it had not increased its stock or bonds. On Nov. 1, 1911, the company's obligations outstanding were its capital stock of \$20,000, bonds of \$20,000 and notes and other debt to the amount of \$95,110.52. It proposed to devote the proceeds of the shares for whose issue it sought approval to the payment and cancellation of the entire amount of its bonds and floating debt. In its floating debt was an expenditure of \$12,805 incurred after the present owners acquired control in July, 1911, in the construction of a transmission line to Foxborough, not, however, completed on Nov. 1, 1911, and to the City Mills and Bush Factory,

respectively, in Norfolk. After an examination of the company's accounts, operations and property, the Board was satisfied that the company's expenditures for plant prior to Nov. 1, 1911, not otherwise provided for, exceeded the amount named in the application, and that the value of its property would exceed its capital stock and debt after the shares hereinafter approved were issued and their proceeds applied as specified by the Board. The following was therefore adopted: —

On the petition of the Union Electric Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$73,800, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Union Electric Light Company, in conformity with all the requirements of law relating thereto, at the price of \$100 per share, as determined by its directors, of 738 shares of new capital stock, of the par value of \$100 each, the proceeds thereof to be applied to the payment and cancellation of an amount of the obligations of the company equivalent to the entire amount of its bonds, notes and debt outstanding on Nov. 1, 1911, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Evening Transcript" and the "Boston Post," newspapers published in the city of Boston. (June 3.)

PETITION OF THE DEDHAM AND HYDE PARK GAS AND ELECTRIC LIGHT COMPANY.

This was an application by the Dedham and Hyde Park Gas and Electric Light Company for the approval of an issue of additional capital stock of the par value of \$14,200, for the purpose of raising money to be applied to the payment of liabilities incurred or to be incurred for extensions and enlargements of its property.

On Jan. 8, 1910, the Board approved of an issue of 435 shares at a price yielding \$26,100, of which the proceeds of all but 50 shares were to be applied to additions to the company's plant made subsequent to Oct. 30, 1909. After that date the company completed a new holder and made substantial additions to its distribution system. For these purposes it had expended prior to Nov. 30, 1911, more than \$7,000 in excess of the proceeds of the stock previously approved and earnings available therefor, and this amount was represented by its promissory notes outstanding on Nov. 30, 1911. It was planning and had undertaken meantime further additions which were estimated to cost in excess of the proceeds of the balance of the stock hereinafter approved. The following was therefore adopted: —

On the petition of the Dedham and Hyde Park Gas and Electric Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$14,200, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Dedham and Hyde Park Gas and Electric Light Company, in conformity with all the requirements of law relating thereto, at the price of \$60 per share, as determined by the directors, of 284 shares of new capital stock, of the par value of \$50 each, the proceeds thereof to be applied to the following purposes and to no other, to wit: the proceeds of 116 shares to the payment and cancellation of an equal amount of the company's obligations represented by its promissory notes outstanding on Nov. 30, 1911, and the proceeds of 168 shares to the payment of the cost of additions to plant made subsequent to said thirtieth day of November.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Evening Transcript" and the "Boston Herald," newspapers published in the city of Boston. (June 5.)

PETITION OF THE HAVERHILL ELECTRIC COMPANY.

This was an application by the Haverhill Electric Company for the approval of an issue of additional capital stock of the par value of \$111,700, for the purpose of paying floating indebtedness incurred for new construction, extensions and permanent improvements, and in meeting the cost of additional plant and property.

In 1908 in compliance with the provisions of chapter 391 of the Acts of 1906, the company began the construction of an underground system, and on May 15, 1908, the Board approved of an issue of 587 shares of new capital stock, at a price yielding \$76,310, on account of the cost of underground lines constructed subsequent to Feb. 29, 1908. Prior to this decision the company had completed the first section of its underground system and had expended therefor more than the amount provided as above described. It had made other substantial additions to its plant during said period, and the capitalizable cost of such underground construction and other additions to plant not previously provided for, to the amount of \$94,000, was represented in its promissory notes outstanding on Sept. 30, 1911. Other additions to its generating station and overhead distributing system, determined upon by the company, were estimated to cost over \$81,000. The following was therefore adopted:—

On the petition of the Haverhill Electric Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$111,700, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Haverhill Electric Company, in conformity with all the requirements of law relating thereto, at the price of \$130 per share, as determined by its directors, of 1,117 shares of new capital stock, of the par value of \$100 each, the proceeds thereof to be applied to the following purposes and to no other, to wit: the proceeds of 723 shares to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Sept. 30, 1911, and the proceeds of 394 shares to the payment of the cost of additions to plant made subsequent to Sept. 30, 1911.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser" and the "Boston Evening Transcript," newspapers published in the city of Boston, and in the "Haverhill Gazette," a newspaper published in the city of Haverhill. (June 13.)

PETITION OF THE MALDEN ELECTRIC COMPANY.

The Malden Electric Company applied for the approval of an issue of additional capital stock, of the par value of \$207,000, for the payment of floating indebtedness incurred on account of new construction, extensions and permanent improvements, and for the cost of further additions to its plant and property.

The company had outstanding on Sept. 30, 1911, notes to the amount of \$265,000. Its expenditures for additions to plant between Nov. 30, 1907, and Sept. 30, 1911, which may fairly be represented in its capital stock, were approximately \$247,000. This expenditure includes the construction of the first section of its underground system in the city of Malden. Further extensions of this system in the cities of Malden and Medford, and other additions to its distributing system, which the company proposed to undertake, were estimated to cost over \$240,000. The following was therefore adopted: —

On the petition of the Malden Electric Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$207,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Malden Electric Company, in conformity with all the requirements of law relating thereto, at the price of \$145 per share, as determined by its directors, of 2,070 shares of new capital stock, of the par value of \$100 each, the proceeds thereof to be applied to the following purposes and to no other, to wit: the proceeds of 1,700 shares to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Sept. 30,

1911, and the proceeds of 370 shares to the cost of additions to plant made subsequent to Sept. 30, 1911.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Daily Globe" and the "Boston Evening Transcript," newspapers published in the city of Boston. (June 15.)

PETITION OF THE FALL RIVER GAS WORKS COMPANY.

This was an application by the Fall River Gas Works Company for the approval of an issue of 1,150 shares of additional capital stock, of the par value of \$100 each, at a price of \$225 a share, as determined by the directors, for the payment of the company's obligations incurred for construction and for future additions to plant.

On Dec. 31, 1911, the company had outstanding promissory notes amounting to \$200,000, and it was to the payment of these notes, and to proposed subsequent expenditures of about \$40,000 for new plant, that the proceeds of the new stock named in the company's petition were to be applied. Between June 30, 1904, and Dec. 31, 1911, the company's total expenditures for additions to plant were \$409,045.16. Of this amount, \$154,192.27 was expended prior to June 30, 1906. In August of that year, upon the application of the company for the approval of an issue of 1,150 shares of new stock to meet the cost of additions to its plant then completed which was included in its promissory notes on June 30, the Board approved of the issue of 550 shares at the price of \$185 per share, and required the proceeds, amounting to \$101,750, to be applied to the payment and cancellation of an equal amount of the notes. The Board stated, as its reason for imposing this limitation on the number of shares then to be issued, that there were "available funds for the payment of a large portion of this debt." The notes outstanding on June 30, 1906, amounted to \$217,000. The new stock was issued in October and November, 1906.

During the period covered by the plant expenditures stated

above the operating profits amounted to \$1,085,763.06. The regular dividends, at the rate of 10 per cent. prior to June 30, 1908, and 12 per cent. annually thereafter, required \$552,050, leaving for net earnings above such dividends \$533,713.06. These net earnings exceeded by \$226,417.90 the cost of the additions to plant after applying thereto the proceeds of the stock approved in 1906. Interest payments during the same time amounted to \$32,038.51, and other minor charges to \$27,467.45. During this period the company, in addition to the dividends above referred to, declared two extra dividends, one of 20 per cent. in July, 1907, and one of 15 per cent. in December, 1910, requiring for this distribution the sum of \$241,500. The notes payable at the close of the year 1911 were within about \$40,000 of the amount required for the extra dividends described, and the conclusion seems irresistible that but for the declaration and payment of these extra dividends these notes would not now exist.

Section 20 of chapter 109 of the Revised Laws provides that no gas light company "shall declare any stock or scrip dividend or divide the proceeds of the sale of stock or scrip among its stockholders." If the outstanding notes were issued for the express purpose of providing for these dividends, to issue stock for their payment would be a plain violation of this provision. Where net earnings are of such volume that they may readily supply the funds for all needed additions to plant, but the company, rather than so apply them, divides all these earnings among its stockholders and provides for additions by outstanding loans to be thereafter capitalized, the prohibition of the statute, if strictly construed, may perhaps be avoided. But by the persistent pursuit of such methods it is obvious that, through a maintenance of prices necessary to produce such earnings, a company not only may compel the public to contribute all the additional investment required for the business, but also may have this contribution permanently represented by capital stock. Such a course, in the judgment of the Board, is not only contrary to the public interest, but, even if it be not an actual evasion of the law cited, is a clear violation of its spirit and of the policy it is intended to declare.

At the close of the year 1911 the company's accounts receiv-

able amounted to nearly \$50,000, and it had on hand upwards of \$30,000 of supplies and \$87,000 in cash. There is every reason to believe that the company's income will afford ample provision, in addition to its regular dividends, for the plant additions proposed subsequent to Dec. 31, 1911, and render a new issue of stock unnecessary for that purpose.

Whenever, because of increased costs not now apparent or of future reductions in the price of gas, profits shall appear inadequate for the reasonably necessary purposes of the corporation, the question of a new stock issue will be entitled to further consideration. The following was therefore adopted: —

On the petition of the Fall River Gas Works Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of 1,150 shares of additional capital stock of the par value of \$100 each, for the objects named in said petition, after public notice and hearing, in view of the facts and considerations, and for the reasons set forth in the foregoing decision, it is —

Ordered, That said petition be dismissed. (June 15.)

PETITION OF THE WEYMOUTH LIGHT AND POWER COMPANY.

This was an application by the Weymouth Light and Power Company for the approval of an issue of additional capital stock of the par value of \$50,000, to pay indebtedness incurred subsequent to June 30, 1911, in the extension and enlargement of its plant already made and for future additions.

On Aug. 22, 1911, the Board approved of the issue of 1,700 shares of stock of the par value of \$170,000, the proceeds to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on June 30, 1911. In addition to the notes to be provided for by the proceeds of this stock, the company, prior to Dec. 31, 1911, had incurred indebtedness of upwards of \$15,800 for other additions to its plant. Further additions to its generating station, estimated to cost over \$40,000, and to its distributing system, estimated to cost about \$10,000, had been determined upon. The following was therefore adopted: —

On the petition of the Weymouth Light and Power Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the

par value of \$50,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Weymouth Light and Power Company, in conformity with all the requirements of law relating thereto, at the price of \$100 per share, as determined by its directors, of 500 shares of new capital stock of the par value of \$100 each, the proceeds of 158 shares thereof to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Dec. 31, 1911, and the proceeds of 342 shares to the payment of the obligations of the company incurred for additions to its generating station and distribution system made subsequent to Dec. 31, 1911, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Daily Herald" and the "Boston Evening Transcript," newspapers published in the city of Boston. (July 10.)

PETITION OF THE LOWELL ELECTRIC LIGHT CORPORATION.

This was an application by the Lowell Electric Light Corporation for the approval of an issue of additional capital stock of the par value of \$153,400, to pay floating indebtedness incurred for additions to plant and to provide for further additions thereto.

Since the last approval of stock for this company in 1908, and prior to Jan. 31, 1912, it expended for plant and equipment a little over \$211,000. For account of this expenditure it had outstanding on that date notes payable for \$175,000, the remainder of said expenditure, as well as the payment of the uncanceled balance of notes outstanding on Jan. 31, 1908, having been provided out of income. The estimated cost of completing certain plant additions in process of construction on Jan. 31, 1912, was \$62,000. Further additions then in contemplation but not begun were estimated to cost \$33,500. The following was therefore adopted: —

On the petition of the Lowell Electric Light Corporation, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$153,400, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Lowell Electric Light Corporation, in conformity with all the requirements of law relating thereto, at the price of \$150 a share, as determined by its directors, of 1,534 shares of new capital stock, of the par value of \$100 each, the proceeds of said stock to be applied to the following purposes and to no other, to wit: the proceeds of 1,166 shares to the payment and cancellation of an equal amount of the company's obligations represented by its promissory notes outstanding on Jan. 31, 1912, and the proceeds of 368 shares to the cost of additions to plant made subsequent to Jan. 31, 1912.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," a newspaper published in the city of Boston, and in the "Lowell Sun" and the "Lowell Courier-Citizen," newspapers published in the city of Lowell. (July 18.)

PETITION OF THE SPRINGFIELD GAS LIGHT COMPANY.

This was an application by the Springfield Gas Light Company for the approval of an issue of additional capital stock of the par value of \$135,000, for the purpose of paying indebtedness incurred in the extension and improvement of the company's plant.

The company had outstanding on Oct. 31, 1911, promissory notes to the amount of \$390,000. In 1910 the Board approved an issue of 325 shares of new capital stock, the proceeds of which, amounting to \$65,000, were to be applied to the cost of additions to plant made subsequent to Nov. 30, 1909. Additions after that date appear to have cost in excess of this provision somewhat more than \$313,000. This amount includes about \$85,000 expended for land not yet actually occupied for the ordinary purposes of the company, but, in view of the recent

rapid growth of its business, it may be expected that at least a portion of this land will be needed for the company's use in the reasonably near future. This application, however, was for stock sufficient to yield about \$270,000, and did not necessarily involve a determination as to whether or not the full amount of the company's expenditure for additions to plant during the period named, including that for land, should be capitalized. The following was therefore adopted:—

On the petition of the Springfield Gas Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$135,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Springfield Gas Light Company, in conformity with all the requirements of law relating thereto, at the price of \$200 a share, as determined by its directors, of 1,350 shares of new capital stock of the par value of \$100 each, the proceeds thereof to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Oct. 31, 1911, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Springfield, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," a newspaper published in the city of Boston, and in the "Springfield Daily Republican" and the "Springfield Daily Union," newspapers published in the city of Springfield. (July 24.)

PETITION OF THE CHICOPEE GAS LIGHT COMPANY.

The Chicopee Gas Light Company applied for the approval of an issue of additional capital stock of the par value of \$55,500, to pay indebtedness incurred in the extension and improvement of the company's plant.

On Oct. 31, 1911, the company had outstanding promissory notes to the amount of \$90,000. In 1906 an issue of 240 shares

of new capital stock was approved, the proceeds of which were to be applied to the cost of additions to plant made subsequent to June 30, 1906. The company later made a considerable extension of its distributing system, and expended therefor, in excess of the proceeds of the stock just described, something more than \$55,000. This expenditure was represented in its promissory notes outstanding on Oct. 31, 1911. The following was therefore adopted: —

On the petition of the Chicopee Gas Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$55,500, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Chicopee Gas Light Company, in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by its directors, of 555 shares of new capital stock, of the par value of \$100 each, the proceeds thereof to be applied to the payment and cancellation of an equal amount of the company's obligations represented by its promissory notes outstanding on Oct. 31, 1911, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," a newspaper published in the city of Boston, and in the "Springfield Daily Republican" and the "Springfield Daily Union," newspapers published in the city of Springfield. (July 24.)

PETITIONS OF THE ARLINGTON GAS LIGHT COMPANY.

These were two applications by the Arlington Gas Light Company for the approval of issues of new capital stock of the par value of \$100,000 and \$50,000, respectively, for the purpose of paying debts incurred for additions already made and the cost of future additions to plant.

The company had outstanding on Dec. 30, 1911, promissory

notes to the amount of \$156,200. Between June 30, 1904, the approximate date of the beginning of the present management, and Dec. 30, 1911, the company's books show that about \$202,000 was expended for additions to plant, a part of which had been provided from stocks and bonds previously approved. Of the remainder, \$120,000 was provided from existing promissory notes which may be fairly represented in new capital stock. Further additions to plant to be installed by the company will probably exceed in cost the proceeds of the balance of the amount of stock named in its petitions. The following was therefore adopted: —

On the petitions of the Arlington Gas Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of issues of new capital stock of the par value of \$100,000 and \$50,000, respectively, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Arlington Gas Light Company, in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by its directors, of 1,500 shares of new capital stock of the par value of \$100 each, the proceeds of said stock to be applied to the following purposes and to no other, to wit: the proceeds of 1,200 shares to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Dec. 30, 1911, and the proceeds of 300 shares to the payment of an equal amount of the cost of additions to plant made subsequent to said thirtieth day of December.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Evening Transcript" and the "Boston Post," newspapers published in the city of Boston. (July 25.)

PETITION OF THE EASTHAMPTON GAS COMPANY.

This was an application by the Easthampton Gas Company for the approval of an issue of additional capital stock of the par value of \$100,000, for the payment of indebtedness incurred or

to be incurred for additions to and extensions of its plant and property.

On Aug. 4, 1911, the Board approved an issue of capital stock of the par value of \$100,000 to pay floating indebtedness outstanding on June 30, 1911, incurred for new construction for which no securities had previously been issued or approved. After that date the company made further additions to its plant costing something over \$60,000, and this expenditure was represented in its promissory notes outstanding on June 1, 1912. Prior to this date the company had made contracts for equipment to increase the capacity of its power station, on which there remained to be expended over \$50,000. The following was therefore adopted:—

On the petition of the Easthampton Gas Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$100,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is—

Ordered, That the Board hereby approves of the issue by the Easthampton Gas Company, in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by its directors, of 1,000 shares of new capital stock of the par value of \$100 each, the proceeds of said stock to be applied to the following purposes and to no other, to wit: the proceeds of 600 shares to the payment and cancellation of an equal amount of the company's obligations represented by its promissory notes outstanding on June 1, 1912, and the proceeds of 400 shares to the payment of obligations incurred for additions to plant made subsequent to said June 1.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further—

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Evening Transcript," the "Boston Daily Advertiser" and the "Boston Post," newspapers published in the city of Boston. .(July 26.)

PETITION OF THE WORCESTER SUBURBAN ELECTRIC COMPANY.

This was an application by the Worcester Suburban Electric Company for the approval of an issue of additional capital stock of the par value of \$200,000, to pay floating indebtedness incurred for new construction, extensions and permanent improvements to the plant and property, and to provide for future additions thereto.

An issue of capital stock of the par value of \$125,000 was approved by the Board on Jan. 5, 1912, the proceeds to be applied to the company's notes outstanding on Sept. 30, 1911. The company later made further expenditures upon its plant approximating \$165,000, and its notes outstanding on June 1, 1912, amounted to \$185,000, representing the net cost of construction for which no provision had been made in the securities previously approved and issued.

Some question developed at the time of the previous decision as to whether all of the expenditures made by the company were properly capitalizable. To approve new stock for the full amount of the notes out on June 1, 1912, was in effect to find that all of the items which they represented were capitalizable. These covered certain interest charges during construction, expenses attendant upon the consolidation by which several small companies were merged into the present company and certain expenditures for reconstruction of plant. After fully considering these various items the Board was unable to approve for more than \$160,000 for plant additions prior to June 1, 1912. Certain work was then under contract on which over \$36,000 remained to be expended, and, with other additions contemplated, its cost was estimated to exceed the amount of stock hereinafter approved. The following was therefore adopted: —

On the petition of the Worcester Suburban Electric Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$200,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Worces-

ter Suburban Electric Company, in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by its directors, of 2,000 shares of new capital stock, of the par value of \$100 each, the proceeds of said stock to be applied to the following purposes and to no other, to wit: the proceeds of 1,600 shares to the payment and cancellation of an equal amount of the company's obligations represented by its promissory notes outstanding on June 1, 1912, and the proceeds of 400 shares to the payment of obligations incurred for additions to plant made subsequent to said June 1.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser" and the "Boston Evening Transcript," newspapers published in the city of Boston, and in the "Worcester Daily Telegram," a newspaper published in the city of Worcester. (July 26.)

PETITION OF THE BROCKTON GAS LIGHT COMPANY.

This was an application by the Brockton Gas Light Company for the approval of an issue of additional capital stock of the par value of \$250,000, the proceeds to be applied to the payment of indebtedness incurred in extending the company's plant and to the cost of future additions thereto.

The company had outstanding on Nov. 30, 1911, notes to the amount of \$287,500. Of these, \$115,000 covered expenditures upon its plant which had not been otherwise provided for and which might be fairly represented in its capital stock. Prior to the date named it had begun the construction of a high-pressure distribution system in the towns of Randolph, Holbrook and Avon, and the estimated cost of completing the portion of this work unfinished on that date was approximately \$115,000. Other additions to plant may reasonably be expected to require the balance of the stock hereinafter approved. The following was therefore adopted: —

On the petition of the Brockton Gas Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of new capital stock of the par value of \$250,000, for the objects named in said petition, after public notice and hearing,

it being deemed by the Board that the amount of stock hereinafter named is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Brockton Gas Light Company, in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by the directors, of 2,500 shares of new capital stock, of the par value of \$100 each, the proceeds of 1,150 shares to be applied to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on Nov. 30, 1911, and the proceeds of 1,350 shares to the payment of obligations of the company incurred on account of additions to plant made subsequent to Nov. 30, 1911, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," a newspaper published in the city of Boston, and in the "Brockton Daily Enterprise" and "Brockton Daily Times," newspapers published in the city of Brockton. (August 6.)

PETITION OF THE AMESBURY ELECTRIC LIGHT COMPANY.

The Amesbury Electric Light Company applied for the approval of an issue of additional capital stock of the par value of \$14,700, for additions to its plant and lines.

At the hearing it appeared that the conditions imposed by the Board upon this company in connection with the issue of bonds and stock approved in 1907 and 1910 had been fully complied with, and that the company had no floating debt on June 30, 1912. It proposed to increase the capacity of its generating plant and to make certain extensions of its lines, estimated to cost in all the sum of \$14,700. The following was therefore adopted: —

On the petition of the Amesbury Electric Light Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$14,700 for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Amesbury Electric Light Company, in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by its directors, of 147 shares of new capital stock of the par value of \$100 each, the proceeds thereof to be applied to the cost of additions to its plant made subsequent to the thirtieth day of June, 1912, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser" and the "Boston Evening Transcript," newspapers published in the city of Boston, and in the "Amesbury News," a newspaper published in the town of Amesbury. (August 6.)

PETITION OF THE EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON.

This was an application by the Edison Electric Illuminating Company of Boston for the approval of an issue of additional capital stock of the par value of \$2,600,700, for the purpose of realizing funds to be applied to the payment of liabilities incurred or to be incurred for additions to its plant and property, including the purchase of the franchises, locations and property of the Hyde Park Electric Light Company and the Weston Electric Light Company.

The Board simultaneously herewith considered and approved applications for the purchase by the Edison company of the franchise and property respectively of the Hyde Park and the Weston company. By the terms of the purchases in question the Edison company was to pay \$187,000 in cash for the Hyde Park company and \$112,000 in cash for the Weston company. The stock of these companies had been purchased in behalf of the Edison company prior to March 31, 1912, with money furnished by it and represented in its notes receivable on that date. For reasons set forth in its decisions relative to said purchases, the Board found that it might properly approve of an issue of Edison stock sufficient to produce the full amount of the purchase price for the Hyde Park property but of not over 300 shares for the purchase of the Weston property.

At the time of the last approval of stock for this company, in 1909, the Board directed that the proceeds of 7,127 shares should be applied to additions to plant made subsequent to Sept. 30, 1909. This stock yielded to the company in cash the sum of \$1,544,730.62. The company was also authorized subsequently to issue and sell 424 shares, yielding \$119,835.25, for the purchase of the electric property of the Lexington Gas Company. Between Sept. 30, 1909, and March 31, 1912, the accounts of the company show that it had added to its plant, including the property purchased from the Lexington company, in all, the sum of \$6,836,871.05. In addition to the sources already mentioned this last-named sum has been or will be provided to the extent of \$800,000 by mortgages on certain real estate purchased within the period and of \$1,328,348.81 from earnings. Included, however, in the sum stated above as added to plant are certain items for automobiles, horses, wagons and their accessories, the cost of distinctively new business promotion, minor apparatus and furniture, which, in view of their transitory character, may, in the opinion of the Board, be more properly represented by the company's surplus rather than be necessarily subject to capitalization. This leaves the sum of \$2,850,000 not otherwise provided for and represented in the \$4,212,500 promissory notes outstanding on March 31, 1912. The amount estimated as necessary to complete work unfinished or authorized on that date was \$2,593,595.25. The following was therefore adopted: —

On the petition of the Edison Electric Illuminating Company of Boston, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$2,600,700, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Edison Electric Illuminating Company of Boston, in conformity with all the requirements of law relating thereto, at \$215 per share, as determined by its directors, of 26,007 shares of new capital stock of the par value of \$100 each, the proceeds of said stock to be applied to the following purposes and to no other, to wit: the proceeds of 869 shares to the purchase, free of encumbrances, of the franchise and property of the Hyde

Park Electric Light Company; the proceeds of 300 shares to the purchase, free of encumbrances, of the franchise and property of the Weston Electric Light Company; the proceeds of 13,256 shares to the payment and cancellation of an equal amount of the obligations of the company represented by its promissory notes outstanding on March 31, 1912, and the proceeds of 11,582 shares to the cost of additions to plant made subsequent to March 31, 1912.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "Boston Daily Globe" and the "Boston Evening Transcript," newspapers published in the city of Boston. (August 7.)

PETITION OF THE MARION GAS COMPANY.

The Marion Gas Company applied for the approval of an issue of additional capital stock of the par value of \$30,000, for the purpose of extending its electric service into Bourne, and of paying indebtedness incurred for permanent additions to its property.

In 1908 the Board approved of an issue of 150 shares for the purpose of providing funds for the construction of an electric light plant. Eleven of the shares so approved were never issued. Since that decision the company had expended in the extension and enlargement of its electric plant more than \$30,000 in excess of the stock already approved, and had outstanding on June 30, 1912, promissory notes to the amount of \$40,200. The following was therefore adopted: —

On the petition of the Marion Gas Company, pursuant to the provisions of section 24 of chapter 109 of the Revised Laws, for the approval of an issue of additional capital stock of the par value of \$30,000, for the objects named in said petition, after public notice and hearing, it being deemed by the Board that said amount of capital stock is reasonably necessary for the purpose for which such issue is authorized, it is —

Ordered, That the Board hereby approves of the issue by the Marion Gas Company, in conformity with all the requirements of law relating thereto, at the price of \$100 a share, as determined by its directors, of 300 shares of new capital stock, of the par value of \$100 each, the

proceeds of said stock to be applied to the payment and cancellation of an equal amount of the company's obligations represented by its promissory notes outstanding on June 30, 1912, and to no other purpose.

And if any shares shall remain unsubscribed for by the stockholders entitled to take them under the provisions of law relating thereto, it is further —

Ordered and determined by the Board that all such shares shall be offered for sale at some suitable place in the city of Boston, and that notice of the time and place of such sale shall be published in the "Boston Daily Advertiser," the "New Bedford Evening Standard" and the "Brockton Daily Enterprise," newspapers published in the cities of Boston, New Bedford and Brockton respectively. (August 8.)

Miscellaneous.

RATE SCHEDULES.

On Jan. 24, 1912, the Board adopted the following order, and caused copies of the same to be transmitted to all of the gas and electric light companies and the cities and towns owning lighting plants under its supervision:—

Ordered, That every municipality, corporation, company and person required by law to make annual returns to the Board of Gas and Electric Light Commissioners shall, on or before March 1, 1912, file with said Board a schedule or schedules showing all prices, rates and charges for service of every kind rendered by it in the distribution and sale of gas or electricity, or in connection therewith, in force on Jan. 1, 1912 (including the terms, prices, rates and charges made under any individual or special contracts), and a copy of all rules, regulations and forms in any manner applicable to the same. Accompanying said schedules shall be a statement showing all changes in such prices, rates, charges, rules, regulations or forms made subsequent to Jan. 1, 1912.

Whenever, after March 1, 1912, any such municipality, corporation, company or person shall make any change in any price, rate, charge, rule, regulation or form theretofore filed with the Board, or shall make any special contract or agreement, whether oral or in writing, containing any terms, prices, rates, charges, rules or regulations differing from those theretofore in force, it shall, within three days after making such change or contract, file with the Board a statement plainly showing such change and the time when the same is to take effect, and a copy of said special contract if in writing, or a descriptive statement thereof if oral.

MIDDLEBOROUGH DEPRECIATION FUND.

Upon the unanimous request of the municipal light board of the town of Middleborough, in behalf of said town, for the approval of the sum of \$5,637.10 to be included by the town in its appropriation for the fiscal year 1912 for the depreciation fund for account of the Municipal Gas and Electric Light Plant, the said sum being a larger amount than 3 per cent. of the cost of the plant, exclusive of land and water power it was:—

Voted, That the Board hereby approves of the sum of \$5,637.10 as the amount to be included by the town of Middleborough in its appropriations for the current fiscal year, and in the tax levy for depreciation fund on account of the Municipal Gas and Electric Light Plant. (March 1.)

PETITION OF THE BROCKTON GAS LIGHT COMPANY.

This was an application by the Brockton Gas Light Company for authority, under the provisions of chapter 197 of the Acts of 1910, to carry on the business for which it was incorporated in the towns of Bridgewater, East Bridgewater and West Bridgewater.

The company was organized under the general law in the year 1859 for the purpose of manufacturing and selling gas for light and other purposes in the town of North Bridgewater, under the name of the North Bridgewater Gas Light Company. In the year 1874, pursuant to the provisions of chapter 113 of the acts of that year, the name of the town of North Bridgewater was changed to Brockton, and by chapter 38 of the Acts of 1882 the name of the company was changed to Brockton Gas Light Company. The towns of East Bridgewater and West Bridgewater are contiguous to the city of Brockton and the town of Bridgewater adjoins both of said towns.

It appeared at the hearing that it was the intention of the company to construct through all the towns named a system of gas mains for high-pressure distribution, and the selectmen in the several towns had voted in favor of granting the necessary privileges in the streets. The following was adopted by the Board:—

On the petition of the Brockton Gas Light Company, a corporation established under the laws of this Commonwealth for the purpose of "making and selling gas in the town of North Bridgewater," now Brockton, for authority to carry on the business for which it was incorporated in the towns of Bridgewater, East Bridgewater and West Bridgewater of this Commonwealth, as provided in chapter 197 of the Acts of the year 1910, —

Voted, That the Board of Gas and Electric Light Commissioners, after notice and a public hearing and upon due consideration thereof, hereby authorizes the said Brockton Gas Light Company to carry on the business for which it was incorporated in the towns of Bridgewater, East Bridgewater and West Bridgewater, with all the rights, powers and privileges, and subject to all the duties and liabilities set forth in all general laws, now or hereafter in force, applicable to said corporation. (June 6.)

HAVERHILL GAS LIGHT COMPANY.

The Board, having been notified that the Haverhill Gas Light Company intended to transfer and convey its plant and property to the Haverhill Gas Company, adopted and transmitted to the Attorney-General the following vote, viz.: —

Whereas, The Board has received formal notice on behalf of the Haverhill Gas Light Company and the Haverhill Gas Company that the former intends to transfer and convey to the latter all its property, except its franchise, immediately after the expiration of Tuesday, the 25th inst., —

Voted, That the Attorney-General be requested to begin proceedings in some court of competent jurisdiction to enjoin the proposed conveyance. (June 24.)

GROTON PETITION.

This was an application by the municipal light board of the town of Groton asking that this Board give its consent to a price for commercial lighting voted by the town at a meeting held on April 1, 1912.

After due notice a public hearing was held in Groton, at which the municipal light board and the selectmen of the town were represented.

The town has an electric plant consisting of a distributing system only. It was constructed and put into operation in 1909, and, with the additions up to April 1, 1912, had cost \$21,131. This money had been provided, save for certain appropriations

payable from the tax levy, by town notes bearing interest at the rate of $3\frac{7}{8}$ per cent. per annum. Electricity is purchased from the Ayer Electric Light Company under a contract for five years from November, 1909, duly authorized by the town in that year, whereby the company agrees to supply and the town to purchase all the electricity which it may require at the rate of 6 cents a kilowatt hour for a guaranteed yearly consumption of 20,000 kilowatt hours, 5 cents for the next 10,000 kilowatt hours or any part thereof, and 4 cents for all in excess of 30,000 kilowatt hours. To these prices the other expenses of the business must be added to determine the total kilowatt hour cost to the town. The electricity is delivered and measured at or near the boundary line between Groton and Ayer.

The town was supplying 69 private commercial customers, the town hall and other public buildings, and maintaining 165 50-watt and 19 40-watt incandescent street lamps. The prices established in 1909 and which were being charged for commercial lighting, including the public buildings, were 16 cents a kilowatt hour for the first 50 kilowatt hours of monthly use, 15 cents for the second 50, 14 cents for the third 50 and 13 cents for all over 150 kilowatt hours, with a discount of 10 per cent. in each instance for prompt payment. A minimum monthly charge of \$1 is made for each meter installed. During the year ending June 30, 1911, the town supplied to its commercial customers, including the public buildings, 8,929 kilowatt hours and to its street light circuits 14,893 kilowatt hours. Its operating expenses, including the payment for electricity purchased during that year, amounted to \$2,511.65. Its net investment in its plant on June 30, 1911, was \$20,767. During the year ending March 1, 1912, the town supplied to its commercial customers, including the public buildings, 13,172 kilowatt hours and for its street lights 16,472 kilowatt hours. Its operating expenses for the same period amounted to \$2,997.27.

At a meeting held on April 1, 1912, the town voted "to direct the electric light commission to sell electricity for 12 cents per kilowatt hour." Nothing is said in this vote with respect to any discount, but it seemed to be assumed at the hearing that a discount of 10 per cent. was to be allowed from the 12-cent price

for prompt payment. In other words, it was proposed to reduce the maximum net price for commercial lighting to not more than 12, perhaps to 10.8, cents a kilowatt hour.

By section 22 of chapter 34 of the Revised Laws, relating to the municipal lighting plants, it is provided: —

There shall be a fixed price for . . . electricity, which shall not be changed oftener than once in three months . . . The price shall not, except with the written consent of the board of gas and electric light commissioners, be fixed at less than cost, in which shall be included all operating expenses, interest on the net investment in the plant, less assessments collected under section twenty-five at the rate paid upon the bonds above provided for, the requirements of the sinking fund established to meet such bonds, and also depreciation of the plant, to be reckoned at not less than five per cent. per annum of its cost, and losses; . . . electricity used by the . . . town shall be charged to it at cost.

Section 23 of the same chapter and section 7 of chapter 410 of the Acts of 1905 provide means for securing compliance with these provisions.

Employing the method of determining the cost prescribed by the statute, the result for the year ending June 30, 1911, is as follows: —

Operating expenses,	\$2,511 65
Interest on investment at $3\frac{7}{8}$ per cent.,	804 72
Depreciation at 5 per cent.,	1,038 35
	<hr/>
Total,	\$4,354 72

For an output of 23,912 kilowatt hours this makes an average cost of 18.2 cents a kilowatt hour. For the year ending March 1, 1912, the figures are as follows: —

Operating expenses,	\$2,997 27
Interest on investment at $3\frac{7}{8}$ per cent.,	818 80
Depreciation at 5 per cent.,	1,056 55
	<hr/>
Total,	\$4,872 62

This makes the average cost for an output of 29,644 kilowatt hours 16.43 cents.

It is obvious from these figures that the cost to the town of the electricity supplied by it, as defined by the statute, has been more than 12 cents a kilowatt hour. It developed at the hearing that some misapprehension as to the cost of the electricity sold had probably led the town to vote for the 12-cent rate. Under the contract for the purchase of current the average cost per unit will decrease with the increase of electricity used, and, while the volume of business has probably not yet reached its limit, no sufficient evidence was offered to show such development of the business in the near future as would reduce the cost as low as 12 cents. The maximum net price charged is not high when the size of the town, the volume of the business, and the benefits, direct and indirect, are considered. Indeed, unless the output shall appreciably increase, even this price may prove to be less than cost. The statute having defined "cost" with considerable precision, manifestly intends that the property be efficiently maintained, and that private consumers bear their full share of the burden which the town assumes in supplying the electricity which they use, unless exceptional conditions shall make such course clearly impracticable or inexpedient. A supply to private consumers for less than cost compels all other taxpayers, many of whom may be unable to obtain the service for their own use, to pay for the special advantages enjoyed only by a few. In view of these considerations the Board —

Voted, To withhold its consent to the price of 12 cents per kilowatt hour named in the vote passed by the town of Groton at the meeting held on April 1, 1912. (June 28.)

PETITION OF THE BUZZARDS BAY ELECTRIC COMPANY.

There was an application, under the provisions of chapter 197 of the Acts of 1910, by the Buzzards Bay Electric Company for authority to manufacture, distribute and sell electricity for light, heat and power purposes in that part of the town of Bourne situated on the southerly side of the Monument River.

This application was concurrent with another by the Marion Gas Company for authority to extend its lines into that part of the town of Bourne lying north of the Cape Cod Canal. By a

vote adopted by the Board on Nov. 7, 1911, the Buzzards Bay company was authorized to carry on its business in certain portions of Bourne lying partly south and partly north of the Cape Cod Canal, and on Nov. 15, 1911, the Marion company was authorized to carry on the business of furnishing electricity within the remaining portions of said town. This action was taken by the Board in an attempt to make a fair division of this territory between these two companies, and in accordance with a tentative arrangement between them. It appeared that both companies had decided that the Cape Cod Canal would be a more satisfactory dividing line, and this view seemed to be acceptable to the selectmen of Bourne. Neither company had extended its lines beyond this dividing line. The following vote was therefore adopted: —

On the petition of the Buzzards Bay Electric Company, a corporation established under the laws of this Commonwealth with authority "to manufacture, sell and distribute electricity for use for lighting, for heating and for power" in the town of Falmouth, for authority to extend its lines into that part of the town of Bourne lying southerly of the Monument River, as provided in chapter 197 of the Acts of 1910, —

Voted, That the Board of Gas and Electric Light Commissioners, after notice and a public hearing, and upon due consideration thereof, hereby authorizes the said Buzzards Bay Electric Company to carry on the business for which it was incorporated in so much of the town of Bourne as lies southerly of the center line of the location of the canal, known as the Cape Cod Canal, now in process of construction by the Boston, Cape Cod & New York Canal Company, under the provisions of chapter 448 of the Acts of 1899 and all acts in amendment thereof and in addition thereto, with all the rights, powers and privileges, and subject to all the duties and liabilities, set forth in all general laws now or hereafter in force applicable thereto. And it is further —

Voted, That the vote of the Board heretofore adopted on Nov. 7, 1911, upon the petition of said company for authority "to carry on the business for which it was incorporated in the towns of Barnstable, Bourne and Sandwich," is hereby amended so as to conform to the foregoing vote. (July 19.)

PETITION OF THE MARION GAS COMPANY.

This was an application under the provisions of chapter 197 of the Acts of 1910, by the Marion Gas Company for authority to manufacture, distribute and sell electricity for light, heat

and power purposes in that part of the town of Bourne situated on the northerly side of the Cape Cod Canal.

This application was concurrent with another by the Buzzards Bay Electric Company for authority to extend its lines into that part of the town of Bourne lying south of the Monument River. By a vote adopted by the Board on Nov. 7, 1911, the Buzzards Bay company was authorized to carry on its business in certain portions of Bourne lying partly south and partly north of the Cape Cod Canal, and on Nov. 15, 1911, the Marion company was authorized to carry on the business of furnishing electricity within the remaining portions of said town. This action was taken by the Board in an attempt to make a fair division of this territory between these two companies and in accordance with a tentative arrangement between them. It appeared that both companies had decided that the Cape Cod Canal would be a more satisfactory dividing line, and this view seemed to be acceptable to the selectmen of Bourne. Neither company had extended its lines beyond this dividing line. The following vote was therefore adopted: —

On the petition of the Marion Gas Company, a corporation established under the laws of this Commonwealth for the purpose of "making, selling and distributing gas and electricity, or either of them, for light, and for heating, cooking, chemical and mechanical purposes, and for the purpose of generating and furnishing steam or hot water for heating, cooking and mechanical power in the town of Marion in the county of Plymouth," and authorized "to carry on the business of furnishing gas and electricity for heat, light and power in the town of Wareham," for authority to "manufacture, distribute and sell electricity for light, heat and power purposes in all that part of the town of Bourne situated on the northerly side of the Cape Cod Canal," as provided in chapter 197 of the Acts of 1910, —

Voted, That the Board of Gas and Electric Light Commissioners, after notice and a public hearing and upon due consideration thereof, hereby authorizes the Marion Gas Company to carry on the business of furnishing electricity for heat, light and power in so much of the town of Bourne as lies northerly of the center line of the location of the canal, known as the Cape Cod Canal, now in process of construction by the Boston, Cape Cod & New York Canal Company, under the provisions of chapter 448 of the Acts of 1899 and all acts in amendment thereof and in addition thereto, with all the rights, powers and privileges, and subject to all the duties and liabilities, set forth in all general laws now or hereafter in force applicable thereto. And it is further —

Voted, That the vote of the Board heretofore adopted on Nov. 15, 1911, upon the petition of said company for authority "to extend its lines into the town of Bourne for the purpose of supplying in that town electricity for light, power and heat," is hereby amended so as to conform to the foregoing vote. (July 19.)

ELECTRIC DEMAND INDICATORS.

Pursuant to the provisions of chapter 437 of the Acts of the year 1912 the following was adopted, viz.: —

Voted, That the fees for testing electric demand indicators under the requirements of chapter 437 of the Acts of the year 1912 be fixed as follows: —

For an indicator of a capacity of 10 amperes or less,	\$3
For an indicator of a capacity of more than 10 and not more than 15 amperes,	4
For an indicator of a capacity of more than 15 and not more than 25 amperes,	5
For an indicator of a capacity of more than 25 and not more than 50 amperes,	6
For an indicator of a capacity of more than 50 and not more than 100 amperes,	7
For an indicator of a capacity of more than 100 and not more than 150 amperes,	8
For an indicator of a capacity of more than 150 and not more than 300 amperes,	9
For an indicator of a capacity of more than 300 and not more than 600 amperes,	10
(October 29.)	

WAKEFIELD DEPRECIATION FUND.

Upon the request of the municipal light board of the town of Wakefield, in behalf of said town, for the approval of the sum of \$1,200 to be added to the depreciation fund for account of the municipal lighting plant, the said sum being a larger amount than 3 per cent. of the cost of the plant, exclusive of land, the following was adopted: —

Voted, That the Board hereby approves of the appropriation by the town of Wakefield of the sum of \$1,200 for account of the depreciation fund of the municipal lighting plant, pursuant to the following vote adopted at the town meeting held on the eleventh day of November, 1912, to wit: "*Voted*. That the town raise and appropriate \$1,200 for the depreciation fund of the municipal light plant;" said amount being in addition to the amount therefor included in the appropriation voted by the town at its meeting on March 18, 1912. (December 21.)

GAS COMPANIES.

The following table shows the corporate names and capital stock of the gas companies in active operation, and the names of the persons and corporations other than gas companies making and selling gas, on the thirtieth day of June last, with the localities supplied and the population of each according to the census of 1910. Unless otherwise noted the par value of each share of capital stock reported is \$100:—

CORPORATE NAME.	Localities supplied.	Population.	Capital.
Adams Gas Light Co.,	Adams,	13,026	\$60,000
Amesbury & Salisbury Gas Co.,	Amesbury,	9,894	60,000
	Salisbury,	1,658	—
Amherst Gas Co.,	Amherst,	5,112	150,000
Arlington Gas Light Co.,	Arlington,	11,187	100,000
	Belmont,	5,542	—
	Winchester,	9,309	—
Athol Gas & Electric Co.,	Athol,	8,536	294,300
Attleborough Gas Light Company Corporation,	Attleborough,	16,215	58,000
Atwood, L. Sidney, ¹	Chatham,	1,564	—
Bernardston Acetylene Light Co., ²	Bernardston,	741	2,300
Beverly Gas & Electric Co.,	Beverly,	18,650	437,500
	Danvers,	9,407	—
Blackstone Electric Light Co.,	Blackstone,	5,648	10,000
Boston Consolidated Gas Co.,	Boston,	670,585	15,124,600
	Brookline,	27,792	—
	Milton,	7,924	—
Brockton Gas Light Co.,	Brockton,	56,878	559,000
	Randolph,	4,301	—
	Holbrook,	2,816	—
	Avon,	2,013	—
Cambridge Gas Light Co.,	Cambridge,	104,839	1,440,000
Charlestown Gas & Electric Co.,	Somerville (in part),	61,085 ³	—
	Boston (Charlestown District),	41,444	600,000 ⁴
	Somerville (in part),	16,151 ³	—
	Medford (in part),	—	—
	Everett (in part),	—	—
Chicopee Gas Light Co.,	Chicopee,	25,401	166,500
	South Hadley Falls,	4,894	—
Citizens' Gas, Electric & Power Co.,	Nantucket,	2,962	26,000
Citizens' Gas Light Co.,	Quincy,	32,642	383,000
Clinton Gas Light Co.,	Clinton,	13,075	123,000 ⁵
Cotuit Acetylene Gas plant, ²	Barnstable (Cotuit),	4,676	2,462
Dedham & Hyde Park Gas & Electric Light Co.,	Dedham,	9,284	141,750 ⁶
	Hyde Park,	15,507	—
East Boston Gas Co.,	Boston (East Boston),	58,488	575,000 ⁶
	Chelsea,	32,452	—
Easthampton Gas Co.,	Easthampton,	8,524	200,000
Edison Electric Illuminating Company of Brockton,	Stoughton,	6,316	948,800

¹ Manufacture of gas, minor portion of business.² Unincorporated.³ Estimated.⁴ Par value, \$50.⁵ Par value, \$500.⁶ Par value, \$25.

CORPORATE NAME.	Localities supplied.	Popula- tion.	Capital.
Fall River Gas Works Co., . . .	Fall River, . . .	119,295	\$690,000
	Somerset, . . .	2,798	—
Fitchburg Gas & Electric Light Co., . . .	Fitchburg, . . .	37,826	566,150 ¹
Framingham Gas, Fuel & Power Co., . . .	Framingham, . . .	12,948	75,000
Gardner Gas, Fuel & Light Co., . . .	Gardner, . . .	14,699	26,200
Georgetown Gas Co., . . .	Georgetown, . . .	1,958	7,500
Gloucester Gas Light Co., . . .	Gloucester, . . .	24,398	150,000 ¹
Greenfield Gas Light Co., . . .	Greenfield, . . .	10,427	131,000 ¹
	Turners Falls, . . .	4,698 ²	—
Gregory, J. D., ³ . . .	Princeton, . . .	818	—
Hadley Lighting Co., . . .	Hadley, . . .	1,999	1,725 ⁴
Hatfield Gas Co., . . .	Hatfield, . . .	1,986	4,750 ¹
Haverhill Gas Light Co., . . .	Haverhill, . . .	44,115	75,000 ¹
Hyannis Acetylene Gas plant, ⁵ . . .	Barnstable (Hyannis), . . .	4,676	6,271
Ipswich Gas Light Co., . . .	Ipswich, . . .	5,777	16,000
Lawrence Gas Co., . . .	Lawrence, . . .	85,892	1,900,000
	Methuen, . . .	11,448	—
	North Andover, . . .	5,529	—
	Andover, . . .	7,301	—
Leominster Gas Light Co., . . .	Leominster, . . .	17,580	50,000
	Lunenburg, . . .	1,393	—
Lexington Gas Co., . . .	Lexington, . . .	4,918	40,000
Lowell Gas Light Co., . . .	Lowell, . . .	106,294	1,000,000
	Dracut, . . .	3,461	—
	Tewksbury, . . .	3,750	—
	Chelmsford, . . .	5,010	—
Lynn Gas & Electric Co., . . .	Lynn, . . .	89,336	1,182,500
	Swampscott, . . .	6,204	—
	Saugus, . . .	8,047	—
	Nahant, . . .	1,184	—
	Marblehead, . . .	7,338	—
Malden & Melrose Gas Light Co., . . .	Malden, . . .	44,404	1,584,000
	Melrose, . . .	15,715	—
	Medford (in part), . . .	—	—
	Everett (in part), . . .	—	—
Marion Gas Co., . . .	Marion, . . .	1,460	28,900
Marlborough-Hudson Gas Co., . . .	Marlborough, . . .	14,579	130,000
	Hudson, . . .	6,743	—
	Maynard, . . .	6,390	—
Milford Gas Light Co., . . .	Milford, . . .	13,055	72,300
	Hopedale, . . .	2,188	—
Natick Gas Light Co., . . .	Natick, . . .	9,866	59,600
New Bedford Gas & Edison Light Co., . . .	New Bedford, . . .	96,652	1,060,000
	Fairhaven, . . .	5,122	—
Newburyport Gas & Electric Co., . . .	Newburyport, . . .	14,949	285,000
	Newbury, . . .	1,482	—
Newton & Watertown Gas Light Co., . . .	Newton, . . .	39,806	560,000
	Waltham, . . .	27,834	—
	Watertown, . . .	12,875	—
	Wellesley, . . .	5,413	—
	Weston, . . .	2,106	—
North Adams Gas Light Co., . . .	North Adams, . . .	22,019	200,000
	Clarksburg, . . .	1,207	—
Northampton Gas Light Co., . . .	Northampton, . . .	19,431	120,000 ⁴
North Attleborough Gas Light Co., . . .	North Attleborough, . . .	9,562	68,100
	Wrentham, . . .	1,743	—
Norwood Gas Co., . . .	Norwood, . . .	8,014	72,000
Old Colony Gas Co., . . .	Abington, . . .	5,455	100,000
	Braintree, . . .	8,066	—
	Rockland, . . .	6,928	—
	Weymouth, . . .	12,895	—
	Whitman, . . .	7,292	—

¹ Par value, \$50.² Estimated.³ Manufacture of gas, minor portion of business.⁴ Par value, \$25.⁵ Unincorporated.

CORPORATE NAME.	Localities supplied.	Popula- tion.	Capital.
Otis Co., ¹	Ware, . . .	8,774	—
People's Gas & Electric Co., of Stoneham, . . .	Stoneham, . . . Reading, . . .	7,090 5,818	\$40,000 —
Pittsfield Coal Gas Co., . . .	Pittsfield, . . . Dalton, . . .	32,121 3,568	396,000 —
Plymouth Gas Light Co., . . . Sadler, Thomas G., ¹ . . .	Plymouth, . . . Attleborough (South Attleborough), . . .	12,141 16,215	40,000 —
Salem Gas Light Co., . . .	Salem, . . . Peabody, . . .	43,697 15,721	499,600 —
South Hadley Gas Co., . . . Spencer Gas Co., . . .	South Hadley, . . . Spencer, . . .	4,894 6,740	5,000 97,500
Springfield Gas Light Co., . . .	Springfield, . . . Agawam, . . . Longmeadow, . . . Ludlow, . . . West Springfield, . . .	88,926 3,501 1,084 4,948 9,224	1,137,500 — — — —
Suburban Gas & Electric Co., . . .	Revere, . . . Winthrop, . . .	18,219 10,132	684,500 —
Sunderland Gas Co., . . . Taunton Gas Light Co., . . .	Sunderland, . . . Taunton, . . . Berkley, . . . Dighton, . . .	1,047 34,259 999 2,235	1,200 ² 220,000 ² — —
Vineyard Haven Gas & Electric Light Co., . . .	Vineyard Haven, . . .	1,196	10,000
Vineyard Lighting Co., . . . Waite & Smith, ³ . . .	Oak Bluffs, . . . Dartmouth (South Dartmouth), . . .	1,084 3,793	25,000 —
Webster & Southbridge Gas & Elec- tric Co., . . .	Webster, . . . Dudley, . . . Southbridge, . . .	11,509 4,267 12,592	170,000 — —
Williamstown Gas Co., . . . Woburn Gas Light Co., . . . Worcester County Gas Co., . . .	Williamstown, . . . Woburn, . . . Brookfield, . . . Leicester, . . . Monson, . . . North Brookfield, . . . Palmer, . . . Warren, . . . West Brookfield, . . .	3,708 15,308 2,204 3,237 4,758 3,075 8,610 4,188 1,327	40,000 45,100 85,000 — — — — — —
Worcester Gas Light Co., . . .	Worcester, . . .	145,986	1,200,000

¹ Manufacture of gas, minor portion of business. ² Par value, \$50. ³ Unincorporated.

The companies in Adams, Amherst, Athol, Beverly, Blackstone, Charlestown, Clinton, Easthampton, Fitchburg, Lawrence, Lynn, Marion, Nantucket, New Bedford, Newburyport, North Adams, Oak Bluffs, Revere and Winthrop, Spencer, Webster and Southbridge and Williamstown supply gas and electricity. The Edison Electric Illuminating Company of Brockton supplies gas and electricity in the town of Stoughton.

The following statistics exhibit a summary of the financial operations of all the companies in the State compiled from the items relating to the manufacture and sale of gas in the returns of the last two years made to the Board: —

	FOR YEAR ENDING JUNE 30.	
	1911.	1912.
INCOME: —		
For gas sold by meter,	\$10,972,929 58	\$11,500,110 04
For gas supplied to public lamps,	241,323 84	243,819 61
For gas sold to other companies,	411,322 44	433,937 07
From sales of coke,	387,506 22	372,728 36
sales of tar,	178,303 55	187,195 07
sales of ammoniacal liquor,	58,891 43	63,709 68
rent of meters,	5,566 05	7,843 78
rent of gas stoves and engines,	3,089 07	2,967 29
rent of gas lamps,	24,891 71	26,105 85
public lamps other than gas lamps,	18,241 46	18,466 09
other sources,	1,666 74	1,709 16
Total,	\$12,303,732 09	\$12,858,592 00
EXPENSES: —		
1. Coals,	\$1,922,012 61	\$1,969,524 80
2. Enrichers,	833,631 35	882,871 48
3. Purifying materials,	37,275 55	35,417 40
4. Water,	25,724 95	30,893 00
5. Wages at works,	690,243 48	702,639 23
6. Repairs and maintenance of works,	359,430 46	398,929 79
7. Renewal of plant,	96,484 49	83,042 01
8. Apparatus and machinery,	56,941 21	70,541 16
9. Gas bought,	1,108,129 89	1,183,507 62
10. Wages of meter takers, clerical labor in distribution, and salary or commissions of collectors,	473,013 42	494,531 23
11. Repairs, renewals and maintenance of mains and service pipes,	299,380 66	360,124 66
12. Distribution tools and appliances,	125,836 13	154,487 52
13. Repairs and renewals of meters,	237,986 07	256,569 77
14. Gas stove fixings, repairs, etc.,	116,866 72	138,985 60
15. Lighting and repairing (gas lamps only),	59,783 66	68,999 52
16. Lighting and repairing, and materials used for other lamps,	30,214 75	19,899 29
17. Directors' allowances,	16,461 30	17,628 69
18. Salaries of officers,	264,654 41	234,126 18
19. General salaries,	355,067 70	419,258 66
20. Rent of offices,	62,423 79	62,865 85
21. Repairs and maintenance of office buildings,	—	6,179 44
22. General office expenses,	301,025 43	446,458 25
23. Taxes,	974,976 67	1,095,735 39
24. Insurance,	79,545 81	89,998 76
25. Law expenses,	29,686 33	31,302 24
26. Claims,	31,012 92	29,270 00
27. Bad debts,	16,707 30	16,402 14
28. Incidental expenses,	2,634 87	5,856 69
Total,	\$8,607,151 93	\$9,306,046 37
Leaving an apparent profit on their gas business of	\$3,696,580 16	\$3,704,196 26
They have also received for interest, etc.,	34,761 57	49,748 70
for rents, etc.,	218,692 38	335,232 46
as profits from electric lighting,	908,336 37	996,070 52
Making a total of	\$4,858,370 48	\$5,085,247 94
Leaving an apparent deficit of	1,894,628 31	—
	\$6,752,998 79	\$5,085,247 94

	FOR YEAR ENDING JUNE 30.	
	1911.	1912.
From these receipts should be deducted: —		
Interest on bonds and loans,	\$421,838 65	\$496,456 70
Dividends,	3,319,468 32	3,368,680 30
Other items,	3,011,691 82	867,112 44
	\$6,752,998 79	\$4,732,258 44
Leaving a surplus for the year of	—	352,989 50
	\$6,752,998 79	\$5,085,247 94

Eight ¹ of the companies appear not to have earned expenses, and nineteen ² have not earned sufficient to warrant the declaration of any dividend.

The receipts from gas sold by meter show an increase of \$527,180.46. The receipts from sales for public lamps have increased by \$2,495.77.

In Appendix B will be found, under date of June 30, 1912, the separate balance sheets, profit and loss and manufacturing accounts of the gas companies, as taken from the annual returns, with corrections made by the Board after their examination and correspondence with the officers of the several companies.

Aggregates from these balance sheets and those in the returns of 1911 show the following facts: —

	JUNE 30.	
	1911.	1912.
ASSETS: —		
Real estate, machinery, street mains and meters,	\$52,757,389 00	\$55,836,468 94
Cash on hand,	1,489,504 97	1,506,005 52
Due for gas,	700,298 91	778,930 64
Other accounts due,	622,063 94	625,326 85
Materials, etc.,	2,631,047 92	2,883,933 96
Notes receivable,	26,826 26	173,991 84
Investments, etc.,	1,338,573 90	1,658,418 82
Electric assets,	8,878,772 73	9,639,077 80
	\$68,444,477 63	\$73,102,154 37

¹ Ten last year.² Seventeen last year.

	JUNE 30.	
	1911.	1912.
LIABILITIES: —		
Capital stock,	\$35,550,241 27	\$36,426,283 83
Bonds,	1,564,800 00	1,644,000 00
Notes payable,	7,422,936 72	9,552,128 67
Unpaid bills,	767,356 90	881,399 31
Unpaid dividends,	86,706 96	80,013 00
Deposits,	399,859 89	428,801 25
Interest due and unpaid,	2,925 18	2,416 62
Interest accrued but not due,	60,813 73	43,457 05
Premium on capital stock,	13,687,554 75	14,326,324 25
Other items,	279,318 14	460,287 05
	\$59,822,513 54	\$63,845,111 03
Reserve and depreciation funds,	2,456,513 70	2,732,195 82
	\$62,279,027 24	\$66,577,306 85
Surplus,	6,165,450 39	6,524,847 52
	\$68,444,477 63	\$73,102,154 37
Of these companies: —		
63 ¹ show an aggregate surplus of	\$6,226,612 68	\$6,592,799 90
7 ² show an aggregate deficit of	61,162 29	67,952 38
Leaving total net surplus, as shown above,	\$6,165,450 39	\$6,524,847 52
Which added to reserves carried as liabilities,	2,456,513 70	2,732,195 82
	\$8,621,964 09	\$9,257,043 34
Would show an actual surplus of		
Equivalent to a per cent. on capital of about	24.25	25.41

¹ Sixty-three in 1911.

² Eight in 1911.

Taxes.

The valuation of the property of the several companies as fixed by the local assessors may be found in detail in Appendix D. The aggregate valuation of all the companies is \$51,246,036.

Certain companies, however, have electric light plants, and the assessed value of such whenever separately returned is as follows: —

Amherst,	\$39,650	Marion,	\$18,000
Blackstone,	15,000	Suburban (Revere),	569,580
Citizens' (Nantucket),	12,965	Vineyard (Oak Bluffs),	34,840
Easthampton,	166,267	Webster,	207,225
Fitchburg,	588,593		
Lawrence,	947,125	Total,	\$4,007,770
Lynn,	1,408,525		

The value of the gas plants as assessed by the local assessors is then, in round numbers, probably not far from \$45,000,000 as there are electric plants at Adams, Athol, Beverly, Charles-

town, Clinton, New Bedford, Newburyport, North Adams, Spencer and Williamstown, which are not given in the last table.

The total sum paid by the companies for taxes, including State supervision, after apportioning to electric account that part of the gas companies' taxes belonging to their electrical departments, was \$1,095,735.39, an average of 7.6 cents per thousand feet of gas sold; being an increase over the amount paid the previous year of \$120,758.72 in the total and an increase of four-tenths of a cent for every thousand feet sold.

Dividends.

The amount paid in dividends by the several companies, the rate and amount per thousand feet of gas sold, will be found in detail in Appendix D. Seventeen companies paid no dividends. The 52 companies paying dividends paid out in all for this purpose the sum of \$3,368,689.30, which is an average rate of 9.4 per cent. on their capital stock.

Reductions in Price.

The following companies reduced the maximum net price of gas per 1,000 feet during the year ending June 30, 1912:—

Attleboro,	.	.	.	.	.	.	.	.	from	\$1.20	to	\$1.10
Beverly,	.	.	.	.	.	.	.	.	from	1.15	to	1.10
Beverly (in Danvers),	.	.	.	.	.	.	.	.	from	1.70	to	1.35
Blackstone,	.	.	.	.	.	.	.	.	from	1.25	to	1.20
Citizens (Quincy),	.	.	.	.	.	.	.	.	from	1.40	to	1.30
Clinton,	.	.	.	.	.	.	.	.	from	1.60	to	1.50
Haverhill,	.	.	.	.	.	.	.	.	from	.90	to	.85
Leominster,	.	.	.	.	.	.	.	.	from	1.50	to	1.40
Lynn (in Marblehead),	.	.	.	.	.	.	.	.	from	1.25	to	1.00
Malden,	.	.	.	.	.	.	.	.	from	.95	to	.90
Northampton,	.	.	.	.	.	.	.	.	from	1.15	to	1.10
North Attleborough,	.	.	.	.	.	.	.	.	from	1.35	to	1.20
Pittsfield,	.	.	.	.	.	.	.	.	from	1.15	to	1.08
Salem,	.	.	.	.	.	.	.	.	from	1.10	to	1.00
Suburban (Revere),	.	.	.	.	.	.	.	.	from	1.00	to	.90
Vineyard Lighting (Oak Bluffs),	.	.	.	.	.	.	.	.	from	3.51	to	3.42
Woburn,	.	.	.	.	.	.	.	.	from	1.40	to	1.25
Worcester,	.	.	.	.	.	.	.	.	from	.80	to	.75

Price.

The following pages show the prices charged by the several companies June 30, 1912, and the average price, per thousand feet, received from sales by meter in each of the two years ending June 30, 1911 and 1912:—

COMPANY.	Gross Price.	REMARKS.	MAXIMUM NET PRICE.		AVERAGE PRICE.	
			1912.	1911.	1912.	1911.
Adams,	\$1 25	Discount 20 cents per M if paid before the 10th of the month; special rates of \$1 and 90 cents, respectively, to certain consumers.	\$1 05	\$1 05	\$1 04	\$1 14
Amesbury,	2 00	Discount 50 cents per M for fuel purposes, 75 cents per M for engines. Minimum charge, 50 cents a month; \$1 a month where electric light is used.	2 00	2 00	1 60	1 63
Amherst,	1 50	For 500,000 cubic feet annually or over \$1.25 net. Minimum charge of 50 cents a month.	1 50	1 50	1 45	1 72
Arlington,	1 40	15 cents discount per M if paid before the 10th of the month. Prepayment meters at \$1.30. Minimum charge of 50 cents a month is made to consumers whose net bills average less than that amount during the year.	1 25	1 25	1 28	1 28
Atbol,	1 75	are used, \$1.45 per M. Gas for fuel purposes g to quantity used. Yearly minimum charge of not at that rate the difference is added to	1 75	1 75	1 54	1 55
Attleboro,	1 30	paid on or before the 16th of the month. Minimum for 2, 3 and 5 light meters, larger meters \$6 a year,	1 10	1 20	1 11	1 20
Atwood, L. Sidney (Chatham),	15 00	Acetylene gas, \$14 to one customer; 25 cents minimum charge.	15 00	15 00	15 00	15 00
Barnardston,	15 00	Acetylene gas; \$14 to one customer; 25 cents minimum charge.	15 00	15 00	14 86	14 82
Beverly,	1 30	Discount 20 cents per M on all bills paid on or before the 10th of the month; one customer guaranteeing 1,000,000 to 4,000,000 feet per year, \$1 per M net. Minimum charge of \$1 a quarter,	1 10	1 15	1 16	1 17

† Danvers, \$1 55; prepayment meters, \$1.45; Beverly prepayment meters, \$1.30.

‡ Danvers, \$1.36.

COMPANY.	Gross Price.	REMARKS.	MAXIMUM NET PRICE.		AVERAGE PRICE.	
			1912.	1911.	1912.	1911.
Blackstone, . . .	\$1 30	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	\$1 20	\$1 25	\$1 28	\$1 29
Boston Consolidated, . .	80	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	80	80	79.8	80.1
Brockton, . . .	1 20	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	1 10	1 10	1 11	1 11
Cambridge, . . .	1 00	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	85	85	85.6	85.4
Charlestown, . . .	1 00	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	85	85	85.6	86.7
Chicopee, . . .	1 35	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	1 25	1 25	1 23	1 19
Citizens' (Nantucket), . .	2 50	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	2 50	2 50	2 06	2 07
Citizens' (Quincy), . . .	1 30	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	1 30	1 40	1 36	1 45
Clinton, . . .	1 70	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	1 50	1 60	1 50	1 53
Cotuit, . . .	15 00	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	14 25	15 00	14 60	14 92
Dedham, . . .	1 15	Discount charge (year on Special rate) 10th of the month. Minimum month but adjusted at end of	1 15	1 15	1 04	1 04

COMPANY.	Gross Price.	REMARKS.	MAXIMUM NET PRICES.		AVERAGE PRICES.	
			1912.	1911.	1912.	1911.
Lawrence, . . .	\$1 00	Discount 10 cents per M if paid within 15 days. Discount 20 cents to large mills and to the city of Lawrence.	\$0 90	\$0 90	\$0 90.7	\$0 90.5
Leominster, . . .	1 70	Discounts on bills paid on or before the 10th of the month: 30 cents per M on first 2,000 feet; 45 cents per M in excess of 2,000 feet. 3 special customers at 85 cents per M. Minimum charge of 50 cents a month to consumers whose net bills average less than that amount during the year.	1 40	1 50	1 41	1 48
Lexington, . . .	1 75	Discount of 25 cents if paid within 10 days. Minimum charge of 50 cents to consumers whose net bills average less than that amount during the year.	1 50	1 50	1 50	2 15
Lowell, . . .	85	Discount 20 cents per M if paid within 7 days.	85	85	86.1	89.9
Lynn, . . .		Discount 10 cents per M if paid within 10 days. In Marblehead gross price \$1.10 per M. with discount of 10 cents if paid within 10 days. To General Electric (50 cents net, at their works, plus 5 per cent. to	75 ¹	75	72.9	78.0
Malden, . . .	1 00	For first 35,000 cubic feet per month 10 cents discount; next 10,000 cubic feet 20 cents; all in excess of 45,000 cubic feet 30 cents, if paid within 15 days. Same rates for power. Minimum charge of 75 cents a quarter for customers using less than 833 cubic feet, . . .	90	95	90.1	97.9
Marion, . . .	12 50	Acetylene gas, . . .	12 50	12 50	12 50	12 50
Marlborough, . . .	2 00	Discount 50 cents per M if paid within 10 days. Prepayment meters at \$1.50 net. 1 large consumer using gas engine at \$1.25 per M net. Bills amounting to \$50 a month are discounted 15 per cent. Minimum monthly charge of 50 cents.	1 50	1 50	1 52	1 50
Milford, . . .	1 50	Bills amounting to \$50 a month, 15 per cent. discount. Minimum charge of 50 cents a month to consumers whose net bills average less than that amount during the year, one special rate customer at \$1.10 net and one at \$1.27 $\frac{1}{2}$ net.	1 50	1 50	1 44	1 40
Natick, . . .	1 65	Discount 5 cents per M if paid by the 15th of the month. Fuel gas, \$1.50 per M. Minimum charge of 50 cents a month, . . .	1 60	1 60	1 59	1 57

	90	Discount 10 cents if paid in 10 days. Extra rebates to large consumers as follows: 1,000,000 to 2,000,000 cubic feet 1 per cent.; 2,000,000 to 3,000,000 cubic feet 2 per cent.; and 3,000,000 cubic feet and over 3 per cent. on net payments. Minimum charge of 25 cents a month if less than this value of gas is used, with rebate if year's consumption amounts to \$7.	80	80	81.2	81.1
New Bedford.	1 55	Discount 20 cents per M if paid in 12 days. Price of \$1 net to certain charitable and religious institutions. Meter rent of \$1 a quarter, if less than that	1 35	1 35	1 39	1 39
Newburyport.	90	For c 89 1 cubic feet a year prices range from it used. Minimum charge of 50 cents with refund if bills amount to \$6 a year.	90	90	89.5	94.4
Newton.	1 20	Discount of 20 cents per M if paid in 10 days. Special rates of 90 to 55 cents net respectively to certain customers.	1 00	1 00	97 5	1 00
North Adams.	1 25	15 cents per M discount if paid in charge of 50 cents a month to consumers whose net than that amount during the year.	1 10	1 15	1 17	1 24
North Attleborough.	1 40	Discounts: 20 cents per M, if paid before the 16th of the month. 25 cents per M to consumers of 40,000 feet a month. Minimum charge of 50 cents	1 20	1 35	1 20	1 30
Norwood.	1 70	Discount 10 cents per M if paid by the 15th of the month; 25 cents per M discount to large consumers. 50 cents a month minimum charge.	1 60	1 60	1 57	1 57
Old Colony.	1 35	Discount 10 cents per M, if paid in 15 days. Minimum charge of 50 cents a month when consumers have not used over \$6 a year.	1 25	-	1 20	-
Otis Company (Ware).	1 50	To consumers of 5,000 to 10,000 feet or more a month, \$1.25, to consumers of 10,000 feet or more, \$1 per M. Minimum charge of 25 cents a month.	1 50	1 50	1 33	1 31
People's (Stoneham).	1 60	Discount of 10 cents per M, if paid in 15 days. Minimum monthly charge of 50 cents, with yearly adjustment if total consumption for year is \$6 or over.	1 50	1 50	1 51	1 70
Pittsfield.	1 20	Discount 10 per cent. if paid in 10 days. For industrial and mechanical uses prices range from \$1.10 to 70 cents per M, according to consumption less 10 per cent. in 10 days.	1 08	1 15	1 06	1 14
Plymouth.	1 90	Discount of 10 cents per M, if paid in 20 days. Special rates of \$1.75 and \$1.50 net to certain customers. Minimum charge of 50 cents a month.	1 80	1 80	1 76	1 79
Sadler, Thos. G. (South Attleborough).	13 50	Acetylene gas. Discount \$1 per M if paid within 20 days.	12 50	12 50	12 73	12 67

* Fairhaven, \$1.

* Fairhaven, \$1.10.

* Marblehead, \$1.

Webster,	1 35	Discount of 10 cents per M if paid within 10 days. For mechanical purposes, 10,000 cubic feet or less \$1.35; 10,000 to 20,000 cubic feet, \$1.20; 20,000 to 30,000 cubic feet, \$1.10; 30,000 to 40,000 cubic feet, \$1 net per M.	1 25	1 25	1 25	1 25	1 36
Williamstown,	1 25	Discount of 20 cents per M on all bills paid on or before the 10th of the month. One special customer, \$1.20 per M less 10 per cent., .	1 05	1 05	1 05	1 07	1 15
Woburn,	1 40	Discount 15 cents per M if paid within 15 days. Minimum monthly charge of 25 cents on 5 light meters or under if consumption is less than 300 cubic feet, and of 50 cents for larger meters if consumption is less than 500 cubic feet.	1 25	1 40	1 40	1 37	1 40
Worcester County,	1 80	Discounts: 20 cents per M for first 2,000 feet per month; 40 cents per M all over 2,000 feet. For gas engines and other industrial purposes, 60 cents per M. Additional discount of 10 cents per M for use for ranges. Special rate to 1 customer of \$1.50 net for first and \$1 net for all in excess. 2 at \$1.20 net. Minimum 50 cents to consumers whose net bills average less than 1,000 cubic feet the year.	1 60	1 60	1 60	1 52	1 55
Worcester,	95	Discount 20 cents per M if paid on or before the 15th of the month. Minimum monthly charge of 25 cents when 100 cubic feet are not registered by meter,	75	80	80	78.1	80.6

The average price paid by consumers for coal gas to the companies selling annually more than 30,000,000 feet each is \$0.857 per thousand feet. If the Boston company be excluded the average is \$0.890. The average price received by the remainder of the coal-gas companies from sales by meter is \$1.51, the average received by all is \$0.872 per thousand. The average price for oil gas is \$4.61 per thousand feet. Acetylene gas is commonly billed to customers at a price per hundred feet instead of per thousand feet, as in other kinds of gas. The average price for acetylene gas is \$1.39 per hundred.

The average price paid by consumers of coal gas for sales by meter in 1886 was \$1.72; in 1887, \$1.66; in 1888, \$1.56; in 1889, \$1.50; in 1890, \$1.46; in 1891, \$1.43; in 1892, \$1.52; in 1893, \$1.45; in 1894, \$1.26; in 1895, \$1.21; in 1896, \$1.17; in 1897, \$1.15; in 1898, \$1.14; in 1899, \$1.12; in 1900, \$1.10; in 1901, \$1.08; in 1902, \$1.07; in 1903, \$1.06; in 1904, \$1.05; in 1905, \$1.05; in 1906, \$0.998; in 1907, \$0.948; in 1908, \$0.921; in 1909, \$0.914; in 1910, \$0.901; in 1911, \$0.890.

NOTE. — The terms "coal gas" and "coal-gas companies" whenever used in the report are intended, unless otherwise qualified, to include all except the acetylene companies and those that make their gas entirely from oil distilled in closed retorts externally fired.

ELECTRIC LIGHT COMPANIES.

The following table gives the names of the persons and corporations under the supervision of the Board, who were engaged in the supply of electricity on June 30, 1912, with the localities supplied by each and the population of the same according to the census of 1910, and the capital stock of the incorporated companies. Unless otherwise noted, the par value of each share of capital stock reported is \$100.

NAME.	Localities supplied.	Population.	Capital.
Abington and Rockland, Electric Light and Power Co. of,	Abington, Cohasset, Hanover, Norwell, Rockland, Scituate,	21,196	\$189,000 00
Adams Gas Light Co.,	Adams, Cheshire,	14,534	60,000 00
Adams, U. S., ¹	Townsend,	1,761	—
American Woolen Co., ¹	Acton, Maynard,	8,526	—
Amesbury Electric Light Co.,	Amesbury,	9,894	70,300 00
Amherst Gas Co.,	Amherst, Hatfield, Pelham,	7,565	150,000 00
Athol Gas and Electric Co.,	Athol, Erving, Orange, Wendell,	15,468	294,300 00

¹ Manufacture of electricity, minor portion of business.

NAME.	Localities supplied.	Popula- tion.	Capital.
Attleborough Steam and Electric Co.,	Attleborough, Seekonk,	18,612	\$235,000 00
Ayer Electric Light Co.,	Ayer,	2,797	30,000 00
Ballou, Gilbert M., ¹	Shirley,	2,139	-
Beverly Gas and Electric Co.,	Beverly, Hamilton, Tops- field, Wenham,	22,583	437,500 00
Blackstone Electric Light Co.,	Blackstone,	5,648	10,000 00
Block Plant Electric Light Co.,	Boston (in part),	-	9,500 00
Buzzards Bay Electric Co.,	Falmouth, Barnstable,	7,820	11,000 00
Cambridge Electric Light Co.,	Cambridge,	104,839	850,000 00
Cape Light, Heat and Power Co.,	Provincetown,	4,369	35,000 00
Central Massachusetts Electric Co.,	Monson, Palmer, Warren, Wilbraham, West Brook- field,	21,215	150,000 00
Charlemont Electric Light and Power Co.,	Charlemont,	1,001	3,000 00
Charlestown Gas and Electric Co.,	Boston, Charlestown dis- trict,	41,444	600,000 00 ²
Chester Electric Light Co.,	Chester,	1,377	5,000 00
Citizens' Gas, Electric and Power Co. of Nantucket,	Nantucket,	2,962	26,000 00
Clinton Gas Light Co.,	Clinton, Lancaster,	15,539	123,000 00 ³
Deerfield River Electric Light Co.,	Conway,	1,230	4,700 00
Easthampton Gas Co.,	Easthampton,	8,524	150,000 00
	Arlington,		
	Ashland,		
	Bedford,		
	Bellingham,		
	Boston,		
	Burlington,		
	Brookline,		
	Canton,		
	Carlisle,		
	Chelsea,		
	Dedham,		
	Dover,		
	Framingham,		
	Holliston,		
	Hopkinton,		
	Lexington,		
	Lincoln,		
Edison Electric Illuminating Co. of Boston,	Medfield,	978,303	15,603,700 00
	Medway,		
	Millis,		
	Milton,		
	Natick,		
	Needham,		
	Newton,		
	Norfolk,		
	Sharon,		
	Sherborn,		
	Somerville,		
	Stoneham,		
	Walpole,		
	Waltham,		
	Watertown,		
	Wayland,		
	Westwood,		
	Winchester,		
	Woburn,		
Edison Electric Illuminating Co. of Brockton,	Brockton, Avon, Easton, East Bridgewater, Bridge- water, Stoughton, Whit- man,	88,689	948,800 00
Fall River Electric Light Co.,	Fall River, Somerset, Swan- sea,	123,071	800,000 00
Fitchburg Gas and Electric Light Co.,	Fitchburg,	37,826	566,150 00 ³
Foxboro Electric Co.,	Foxborough, Plainville,	5,248	16,500 00
Franklin Electric Light Co.,	Turners Falls,	6,866	20,000 00
Gardner Electric Light Co.,	Gardner, Barre, Westmin- ster, Hubbardston,	20,082	170,000 00
Gloucester Electric Co.,	Essex, Gloucester, Rock- port,	30,230	245,000 00
Great Barrington Electric Light Co.,	Great Barrington, Egre- mont, Sheffield,	8,348	125,000 00
Greenfield Electric Light and Power Co.,	Greenfield, Deerfield, Ber- nardston, Northfield, Shelburne, Buckland,		
	Colrain,	19,831	500,000 00
Haverhill Electric Co.,	Haverhill,	44,115	446,800 00

¹ Manufacture of electricity, minor portion of business. ² Par value, \$50. ³ Par value, \$500.

NAME.	Localities supplied.	Popula- tion.	Capital.
Huntington Electric Light Co., . . .	Huntington,	1,473	\$5,000 00
Hyde Park Electric Light Co., . . .	Hyde Park,	15,507	287,500 00
Lawrence Gas Co.,	Lawrence, North Andover, Methuen, Andover, . . .	110,170	1,900,000 00
Lee Electric Co.,	Lee, Lenox,	7,166	30,000 00
Lenox Electric Co.,	Lenox, Stockbridge, . . .	4,993	20,000 00
Leominster Electric Light and Power Co.,	Leominster, Lunenburg, . .	18,973	80,000 00
Loveland, W. O., ¹	Ashby,	885	-
Lowell Electric Light Corporation, . .	Lowell, Billerica, Chelms- ford, Tewksbury, Dracut, Tyngsborough, Westford, .	124,984	1,023,000 00
Ludlow Manufacturing Co., ¹	Ludlow,	4,948	-
Lynn Gas and Electric Co.,	Lynn, Swampscott, Na- hant, Saugus,	104,771	1,182,500 00
Malden Electric Co.,	Malden, Melrose, Medford, Everett,	116,753	525,000 00
Manchester Electric Co.,	Manchester,	2,673	116,500 00
Marion Gas Co.,	Marion, Wareham,	5,562	28,900 00
Marlborough Electric Co.,	Marlborough, Berlin, Northborough, South- borough, Westborough, Bolton,	25,151	200,000 00
Middleton Electric Light Co.,	Middleton,	1,129	1,550 00 ²
Milford Electric Light and Power Co.,	Milford, Hopedale,	15,243	40,000 00
Mill River Electric Light Co.,	Williamsburg,	2,132	15,000 00
Montague Electric Light and Power Co.,	Montague,	6,866	2,000 00 ²
Nashua River Paper Corporation, ¹ . .	Pepperell,	2,953	-
New Bedford Gas and Edison Light Co.,	New Bedford, Fairhaven, Mattapoisett,	103,007	1,060,000 00
Newburyport Gas and Electric Co., .	Newburyport, Newbury, West Newbury,	17,904	285,000 00
Niles Trust Estate,	Boston (in part),	-	-
North Adams Gas Light Co.,	North Adams, Clarksburg, .	23,226	200,000 00
Northampton Electric Lighting Co.,	Northampton,	19,431	117,400 00
North Dana Box and Electric Light Co., ¹	Dana,	736	-
Norton Electric Light and Power Co., .	Norton,	2,544	5,000 00
Pittsfield Electric Co.,	Pittsfield, Dalton,	35,689	375,000 00
Plymouth Electric Light Co.,	Plymouth, Duxbury, Kingston,	16,274	120,000 00
Quincy Electric Light and Power Co., .	Quincy,	32,642	250,000 00
Randolph and Holbrook Electric Light Co., ³	Holbrook, Randolph,	7,117	-
Salem Electric Light Co.,	Salem, Peabody (in part), .	43,697 ⁴	495,000 00 ⁵
Seekonk Electric Co.,	Seekonk,	2,397	5,000 00
South Hadley Falls Electric Light Co.,	South Hadley,	4,894	7,000 00
Spencer Gas Co.,	Spencer,	6,740	97,500 00
Steam and Power Co., ⁶	Boston (in part),	-	-
Stockbridge Lighting Co.,	Stockbridge,	1,933	40,000 00
Suburban Gas and Electric Co., . . .	Revere, Winthrop,	28,351	684,500 00
Sunderland Electric Light and Power Co.,	Sunderland,	1,047	11,000 00
Tyngsboro Electric Light Co.,	Tyngsborough, Dunstable, .	1,237	7,500 00 ²
Union Electric Light Co.,	Franklin, Norfolk, Wren- tham,	8,344	93,800 00
United Electric Light Co.,	Springfield, Longmeadow, Ludlow, W. Springfield, .	104,182	1,500,000 00
Vineyard Lighting Co.,	Oak Bluffs, Vineyard Ha- ven, Edgartown,	3,471	25,000 00
Ware Electric Co.,	Ware, Hardwick,	12,298	57,000 00
Webster and Southbridge Gas and Elec- tric Co.,	Webster, Charlton, Dud- ley, Oxford, Southbridge, Sturbridge,	35,718	170,000 00
Westborough Gas and Electric Co., . .	Westborough,	-	36,500 00
Weston Electric Light Co.,	Weston, Wayland, Sud- bury,	5,432	30,000 00
Weymouth Light and Power Co., . . .	Weymouth,	12,895	220,000 00
Williamstown Gas Co.,	Williamstown,	3,768	40,000 00
Winchendon Electric Light and Power Co.,	Winchendon,	5,678	12,000 00
Worcester Electric Light Co.,	Worcester, Leicester, . . .	149,223	1,000,000 00
Worcester Suburban Electric Co., . .	Auburn, Douglas, Grafton, Millbury, Northbridge, Sutton, Upton, Ux- bridge,	33,644	400,000 00

¹ Manufacture of electricity, minor portion of business.² Par value, \$25.³ Owned by estate of Charles Doughty.⁴ Salem only.⁵ Par value, \$50.⁶ Unincorporated.

The following table contains a summary of the financial operations of all the incorporated companies and privately owned plants engaged in the sale of electricity under the supervision of the Board for the year ending June 30, 1911, and for the year ending June 30, 1912: —

	YEAR ENDING JUNE 30.	
	1911.	1912.
INCOME: —		
From sale of commercial arc lights by contract,	\$32,963 12	\$16,038 44
sale of commercial incandescent lights by contract,	115,751 17	132,750 25
sale of commercial arc and incandescent lights by meter,	7,167,569 33	7,914,368 25
sale of public arc lights,	1,418,435 64	1,418,850 21
sale of public incandescent lights,	675,677 04	783,777 59
sale of electric power,	2,677,425 37	3,023,511 88
electricity sold to other companies,	196,313 94	203,096 98
rent of motors,	2,296 66	382 06
rent of fixtures,	22,497 26	39,628 32
rent of meters,	10,312 31	9,883 69
steam heating,	33,867 34	37,743 34
Total,	\$12,353,109 18	\$13,580,031 01
EXPENSES: —		
1. Coal or other fuel,	\$1,458,252 27	\$1,502,025 55
2. Rent of real estate used for plant,	119,399 14	131,064 99
3. Oil and waste,	28,339 75	26,025 64
4. Water,	50,961 30	53,866 62
5. Wages at station,	666,149 99	722,476 98
6. Station repairs,	64,948 83	54,607 11
7. Steam plant repairs,	130,845 56	139,844 71
8. Electric plant repairs,	107,719 88	121,829 00
9. Station tools and appliances,	60,582 57	60,017 58
10. Current bought,	265,906 89	281,278 45
11. Wages for care of lights and meters, clerical labor in distribution department, and salary or commission of collectors,	391,838 32	416,853 33
12. Repairs and renewals of lines,	556,208 17	625,295 14
13. Repairs and renewals of meters, lamps and motors,	132,200 92	198,592 24
14. Distribution tools and appliances,	93,992 13	122,897 01
15. Carbons,	81,264 53	32,717 72
16. Incandescent lamps,	371,934 80	369,047 28
17. Globes,	2,608 32	1,973 81
18. Directors' allowances,	19,335 55	20,414 61
19. Salaries of officers,	274,009 41	245,036 01
20. General salaries,	549,336 69	614,066 86
21. Rent of offices, if separate from plant,	45,702 26	49,357 17
22. Repair and maintenance of office buildings,	—	9,268 35
23. General office expenses,	350,238 98	460,370 34
24. Taxes,	1,080,409 17	1,341,631 96
25. Insurance,	186,151 82	203,196 13
26. Law expenses,	62,301 91	92,600 54
27. Claims,	1,700 83	3,913 70
28. Bad debts,	26,699 93	40,595 38
29. Incidental expenses,	63,078 47	35,484 02
Total,	\$7,251,118 39	\$7,976,348 23

	FOR YEAR ENDING JUNE 30.	
	1911.	1912.
Leaving an apparent profit of	\$5,101,990 79	\$5,603,682 78
Of this profit, the gas companies made in their electrical departments,	908,336 37	996,070 52
Leaving for the electric companies,	\$4,193,654 42	\$4,607,612 26
To which should be added the income from rents, jobbing, etc., amounting to,	316,939 46	381,303 41
Making a total of	\$4,510,593 88	\$4,988,915 67
Against which the following charges were made: —		
Interest,	\$436,305 23	\$518,623 62
Dividends,	2,662,702 54	2,934,448 31
Depreciation,	523,906 73	427,077 38
Sundry items,	720,713 40	876,179 17
Leaving an apparent net profit for the year of	\$4,343,627 90 166,965 98	\$4,756,328 48 232,587 19
	\$4,510,593 88	\$4,988,915 67

Three ¹ of the corporations included above appear not to have earned expenses, and twelve ² have not earned sufficient to warrant the declaration of any dividend.

From the above data it appears that the gross profits from sale of electricity by all the companies increased \$501,691.99, and those doing only an electric business show an increase during the last year of \$413,957.84.

In Appendix B will be found, under date of June 30, 1912, the separate balance sheets, profit and loss and manufacturing accounts of the companies, as taken from the annual returns, with corrections made by the Board after examination and correspondence with the officers of the several companies.

Aggregates from the balance sheets of the electric companies only, taken from the returns of 1911 and 1912, show the following facts: —

¹ Six in 1911.

² Twenty in 1911.

	JUNE 30.	
	1911.	1912.
ASSETS: —		
Construction accounts, including franchises, .	\$45,047,626 67	\$49,963,680 59
Cash on hand,	873,001 47	812,995 89
Due for electricity,	812,474 20	912,737 84
Other accounts due,	168,550 30	175,436 12
Materials, etc.,	1,434,266 45	1,845,637 46
Notes receivable,	139,230 80	323,035 10
Investments, etc.,	2,851,873 93	2,791,320 07
	\$51,327,023 82	\$56,824,843 07
LIABILITIES: —		
Capital stock,	\$25,834,097 50	\$26,647,250 00
Bonds,	3,011,900 00	2,957,200 00
Notes payable,	5,962,619 63	9,792,107 68
Unpaid bills,	570,647 60	619,250 11
Unpaid dividends,	504,121 00	514,185 50
Interest due and unpaid,	462 50	1,440 00
Interest accrued but not due,	63,473 05	84,286 90
Deposits,	55,775 18	65,947 30
Premium on capital stock,	12,130,680 24	12,320,680 24
Other items,	156,206 84	286,297 17
	\$48,289,983 54	\$53,288,644 90
Reserve and depreciation funds,	987,959 48	1,272,385 58
	\$49,277,943 02	\$54,561,030 48
Surplus,	2,049,080 80	2,263,812 59
	\$51,327,023 82	\$56,824,843 07
Of these companies: —		
49 ¹ show an aggregate surplus of	\$2,074,459 00	\$2,284,780 33
7 ² show an aggregate deficit of	25,378 20	20,967 74
	\$2,049,080 80	\$2,263,812 59
Leaving total net surplus as shown above,	987,959 48	1,272,385 58
Which added to reserves carried as liabilities,		
Would show an actual surplus of	\$3,037,040 28	\$3,536,198 17
Equivalent to per cent. on capital of about	11.76	13.27

¹ Fifty-one in 1911.² Eight in 1911.

Taxes.

The valuation of the property of the several electric companies, as fixed by the local assessors, may be found in detail in Appendix E. The aggregate valuation of all of the electric companies is \$43,107,701. This does not include the valuation of the electric plants of the gas companies. The total sum paid by the companies for taxes, including State supervision and including the amounts paid by the gas companies on account of their electric plants, is \$1,341,631.96.

Dividends.

The amount paid in dividends by the several electric light companies and the rate per cent. will be found in detail in Appendix E. Twelve companies paid no dividends. The other 43 companies paid out in all as dividends the sum of \$2,934,448.31, which is an average rate of 11.1 per cent. on their capital stock.

Reductions in Price.

The following companies have reduced the maximum net price per kilowatt hour for electricity for commercial use during the year ending June 30, 1912:—

	Cents per Kilowatt Hour.
Abington and Rockland, ¹	from 16.2 to 15
Adams,	from 13.5 to 13
Amherst,	from 16 to 15
Attleborough,	from 14 to 13
Beverly, ²	from 12 to 11
Block Plant (Boston),	from 20 to 10.8
Buzzards Bay (Falmouth),	from 27 to 17.5
Cambridge,	from 12 to 10.8
Charlestown,	from 11 to 10
Clinton,	from 18 to 16
Edison of Boston,	from 11 to 10
Gloucester,	from 18 to 14
Lawrence,	from 12.6 to 11.7
Leominster,	from 15 to 14
Lynn,	from 12 to 10
Malden,	from 12 to 11
Middleton,	from 25 to 15
Plymouth,	from 16.2 to 14.4
Quincy,	from 15 to 13.5
Salem,	from 13 to 12
Suburban,	from 13 to 12
Vineyard Lighting (Oak Bluffs),	from 27 to 17.5
Ware,	from 20 to 15.3
Williamstown,	from 13.5 to 13
Winchendon,	from 20 to 12

¹ In Cohasset and Scituate from 18 cents to 17 cents.

² In Topsfield from 15 cents to 14 cents.

Price.

The following table shows the prices charged by the several companies for commercial electric lights and power on June 30, 1912:—

COMPANY.	LIGHTING.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Abington and Rockland.	15 cents, .	-	-	9 cents, .	No free wiring. Carbon lamps furnished free, except in Cohasset and Scituate, where customer pays for first installation. Minimum charge of \$1 per month, residences and factories. Summer cottages minimum of \$10 for season. Store-guaranty 25 hours use of connected load. In Abington, Rockland, Hanover and Norwell 15 cents per k. w. h.: 14 cents per k. w. h. for first 50 hours use per month of connected load, 7 cents per k. w. h. for all current used in excess of above. In Cohasset and Scituate, 17 cents per k. w. h., net. For power up to 10 h. p. motor of connected load from 9 cents to 3 cents per k. w. h., according to amount used, with a minimum charge of \$10.50 per h. p.; from 10 h. p. to 50 h. p. \$2 for first k. w. installed and \$1.25 for each succeed-	15	16.2

COMPANY.	LIGHTING.			Power.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Ares by Contract.			1912.	1911.
Abington and Rockland — Con.	-	-	-	-	ing k. w. maximum motor rating and 3½ cents per k. w. h. for current consumed, with discounts based on size of installations; over 50 h. p. motor \$2 for first k. w. and \$1.25 for each succeeding k. w. maximum motor rating in addition to current charge of 3 cents per k. w. h., with discount based on size of installation.		
Adams, . . .	15 cents, .	According to hours of burning.	At incandescent rates, .	5 cents, .	Lamp renewals free. Discounts if paid by 10th of month: 2 cents for the first 15 k. w. h. per month; all in excess of 15 k. w. h. per month, 7 cents; on power rates 1 cent per k. w. h. Lamp renewals 20 cents each. No wiring. No charge less than \$1; no meter rent if more than \$12 of electricity per year used. Power is sold at \$4 per month per ½ h. p.	13	13.5
Adams, U. S. (Townsend).	20 cents, .	12½ to 75 cents per lamp per month.	-	-	Discounts to customers using per month 60 to 90 k. w. h., 5%; 90 to 119 k. w. h., 10%; 120 to 159 k. w. h., 15%; 160 to 199 k. w. h., 20%; 200 to 239 k. w. h., 25%; and 240 k. w. h. or more, 30%. 5 per cent. discount for payment on all bills paid on or before the 15th of each month. Minimum rate of \$12 per year. Renewals at one-half cost, except tungstens at cost.	20	20
American Woolen Co. (Maynard).	15 cents, .	-	-	10 cents, .		14.25	14.25

Amesbury,	20 cents, .	\$1 per lamp per month. All night lighting, \$1.25 per month per lamp.	-	-	10 cents, .	Special lamps at cost; meter rental, 25 cents per month; minimum monthly charge, \$1 and \$1.50 per h. p. of demand. For light, on monthly consumption, 5 to 10 k. w. h., 18 cents; up to 15 k. w. h., 17½ cents; to 20 k. w. h., 17 cents; to 25 k. w. h., 16.5 cents; to 30 k. w. h., 16 cents; to 35 k. w. h., 15.5 cents; to 40 k. w. h., 15 cents; to 50 k. w. h., 14.5 cents; to 60 k. w. h., 14 cents; to 70 k. w. h., 13.5 cents; to 80 k. w. h., 13 cents; to 90 k. w. h., 12.5 cents; to 100 k. w. h., 12 cents; to 110 k. w. h., 11.5 cents; to 120 k. w. h. and over, 11 cents; discount, 10% if paid in 15 days. For power, small customers, 10 cents; 4½ cents, for 500 to 1,500 k. w. h.; 4 cents, for 1,500 to 3,000 k. w. h.; 3½ cents, for 3,000 to 5,000 k. w. h.; 3 cents, for 5,000 k. w. h., and over, per month.	18
Amherst,	15 cents, .	Contracts based on esti- mated meter basis.	Supplied by meter at in- candescent rates.	6 cents, .		Prices for power range from 6 to 1.8 cents, according to consumption. Wiring at cost, renewals at cost. Minimum charge of \$1 per month for lighting.	15
Athol,	16 cents, .	-	Supplied by meter at in- candescent rates.	10 cents, .		Renewals at customer's expense in Athol. Renewals free in Orange, Erving and Wendell. For light, prices range from 16 to 8 cents per k. w. h., according to monthly con- sumption. The first 500 k. w. h. will be billed at 9 cents and balance at 8 cents per k. w. h., with mini- mum charge of \$5 per year in Athol and 80 cents per month in Orange,	20

COMPANY.	LIGHTING.			Power.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Athol — Con., . . .	-	-	-	-	Erving and Wendell. For power, prices range from \$10 to \$1.75, according to consumption; a yearly minimum charge of \$12 per year up to and including 5 h. p., above 5 h. p. \$3 per h. p.		
Attleborough, . . .	13 cents, .	\$1 to \$1.50 per lamp per month.	10 cents per k. w. h., .	7 cents, .	Wiring and renewals, except to contract customers, at customer's expense. Minimum charge of \$1 for lighting and \$1 per h. p. for power per month; for light, prices range from 13 to 10 cents, and for power, sliding scale from 7 to 1½ cents.	13	14
Ayer, . . .	20 cents, .	On contract, according to consumption and hours burning.	On contract, according to consumption and hours burning.	10 cents, .	For light, discounts vary from 10% for less than 50 k. w. h. to 50% for 500 k. w. h. and over, per month, if paid in 10 days. For power, discounts vary from 33% for less than 100 k. w. h. to 71%, for 5,000 k. w. h. and over per month, if paid in 10 days, with service charge per month of \$1 for ½ h. p., \$1.50 for ¾ h. p., \$2 for 1 h. p., \$3 for 2 h. p., \$3.50 for 3 h. p. and \$1 per h. p. for 4 h. p. and over. Renewals at cost. Minimum monthly charge of \$1.	18	18
Ballou, G. M. (Shirley).	15 cents, .	25 cents per month for 16 c. p. lamp.	-	15 cents, .	Customers pay for wiring and renewals. Minimum monthly charge of \$1.	15	15

Beverly.	13 cents. .	-	Supplied by meter at incandescent rates, with exception of 1 special rate.	10 cents. .	No free wiring and no renewals. For light, discount of 2 cents per k. w. h. on bills of over \$1 per month if paid on or before the 10th of the month in Beverly, Wenham and Hamilton; in Topsfield price is 16 cents, with 2 cents per k. w. h. on all bills of over \$1.50 per month if paid by 10th of month. Minimum monthly charge of \$1 in Beverly, and \$1.50 per month in Topsfield. For power, 10 cents per k. w. h. in Beverly, and 12 cents per k. w. h. in Topsfield. Discounts vary according to amount of current used, if paid in 10 days, with minimum monthly charge of \$1 per h. p. of motors installed.	11	12
Blackstone.	15 cents. .	-	-	-	No wiring; renewals of carbon lamps free for 25, 50 and 100 watt gem lamps. Minimum charge of \$1 per month. Prices for light 15 and 12½ cents. Wholesale (yearly contract), \$4 per month per k. w. of connected capacity, except theatres, etc., where indicated demand will be taken and 7 cents per k. w. h.; under 2 k. w. capacity, \$3 per month, over 2 k. w. capacity, \$4 per k. w. per month; with discounts of 10 to 30%, according to capacity; also 5% discount if paid in 10 days. For power, monthly service charge of \$2 per h. p. of yearly maximum demand and 2½ cents per k. w. h.; with discounts for 10 h. p. and over, running up to 40%, according to capacity; also discount of 10% if paid in 10 days.	15	15

COMPANY.	LIGHTING.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Ares by Contract.			1912.	1911.
Block Plant (Boston).	12 cents, .	\$1.33½ per lamp per month, for each 16 c. p. lamp or its equivalent.	Supplied at incandescent rates. 15 a m p e r e lamp equivalent to 10 16 c. p. lamps.	12 c e n t s, or 10 c e n t s per h. p. hours.	Discounts 10% on all monthly bills of \$1.11 and over for payment in 10 days. Customers pay for wiring. Renewals, carbon lamps free; special lamps at special prices. For light, 1 cent per lamp hour for 400 primary hours per year; ½ cent per lamp hour for all secondary hours, less 10% special discount to large consumers. Power, 12 cents per k. w. h. for all current furnished less the reductions: 1st, a price of 9 cents per k. w. h. for all in excess of 23 and not to exceed 103 hours use of demand; 2d, a price of 6 cents per k. w. h. for all in excess of 103 hours use of the demand; 3d, whenever that portion of customer's bill at 9 cents or 6 cents rate or at both exceeds \$10 per month, 70% discount is allowed on such excess. Discount on power by h. p. h. from 10 to 40%, according to amount used. Minimum monthly charge of \$1.	10.8	20
Bussard's Bay (Fal-mouth).	25 c e n t s a n d 5 cents.	Contracts taken at the minimum charge, which is based on the maximum demand (unity power factor); company reserves	-	25 c e n t s a n d 5 cents.	No free wiring; no free renewals. Minimum charge (for 25 watt units demand) first unit 87 cents per month, next two 62 cents per month, all over three units 44 cents per month. De-	-1	27

Cambridge.	12 cents.	-	-	Supplied by meter at in- candescence rates.	5½ cents.	10.8	12
<p>mand in k. v. a. multiplied by 75 hours per month charged at 25 cents per k. w. h., all excess at 5 cents. Prompt payment discounts: June to September, inclusive, 1st to 10th, 20%; 11th to 20th, 10%; October to May, inclusive, 1st to 10th, 30%, 11th to 20th, 15%; short season customers required to make deposit. Power, special year round business subject to interruption on peak load 5 cents per k. w. h.</p> <p>Renewals free for carbon and gas filament lamps; tungstens at cost. 10% discount from meter rates on lighting bills paid before the 15th day of the month up to 500 k. w. h., then all over 500 k. w. h. and under 1,000 k. w. h. 7 cents per k. w. h., from 1,000 k. w. h. and under 4,949 k. w. h. 3½ cents per k. w. h.; prices of total consumption when it exceeds 4,949 k. w. h. per month 5½ cents per k. w. h. net; no minimum charge yearly rate: service charge of \$45 per year per k. w. contracted for in contract.</p> <p>For power, regular rates: first 660 k. w. h. per month, 5½ cents per k. w. h.; next 2,130 k. w. h. per month, 4 cents per k. w. h.; next 930 k. w. h. per month, 3 cents per k. w. h.; next 1,280 and above k. w. h. per month, 2½ cents</p>							

1 Summer, 20 cents and 4 cents; winter, 17½ cents and 3½ cents.

COMPANY.	Lighting.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.)	Maximum Net Prices per K. W. H. (Current).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Area by Contract.			1912.	1911.
Cambridge — Con.,	-	-	-	-	per k. w. h.; a discount of 10% on all bills paid within 15 days from date of bill; contract power rates: when meter readings show 240 hours use of current consumed per month the following prices will be charged: first 5,000 k. w. h. \$163.58, next 10,000 k. w. h. .0185 cents per k. w. h., next 35,000 k. w. h. .018 cents per k. w. h., next 41,433 k. w. h. .015 cents per k. w. h., 91,434 k. w. h. per month and over, .0175 cents per k. w. h. net. No wiring; renewals at cost. Minimum monthly charge \$1.		
Cape (Provincetown),	15 cents, .	50 cents per month for each 16 c. p. lamp. 1½ cents per watt for tungstens.	-	15 cents, .		15	15
Central Massachusetts,	17 cents, .	25 watt lamps 50 cents; up to 100 watts \$1.25 per month.	-	-	Renewals free. Monthly minimum charge, 50 cents; and for power, if monthly bill is less than equivalent of \$1 per h. p. of monthly maximum demand, as a net monthly charge for service connection. On lighting bills a discount of 10% allowed on 50 k. w. h.; 15% on 100 k. w. h.; 20% on 150 k. w. h.; 25% on 200 k. w. h.; 30% on 250 k. w. h., if paid on or before the 10th of the month. For street railway purposes, 2 cents per k. w. h. An increase in price of 1¢ of a cent per k. w. h. for each in-	15.3	17

Charlemont,	.	.	15 cents,	\$1 to \$8.25 per month based on number lamps supplied.	-	-	-		crease of 10 cents in price of coal above \$4.70 per long ton, with the following discounts for monthly consumption: 75,000 to 100,000 k. w. h., 5%; 100,000 to 150,000 k. w. h., 10%; and over 150,000 k. w. h., 15%; gross primary charge of 8 cents per k. w. h. for first 50 hours use per month of maximum demand, plus gross secondary charge of 2½ cents per k. w. h. for all current consumed thereafter. The following discounts based on monthly maximum h. p. demand: 1 to 10 h. p. net; 11 to 20 h. p., 10%; 21 to 30 h. p., 20%; 31 to 40 h. p., 25%; 41 to 50 h. p., 30%; 51 to 75 h. p., 40%; 76 to 150 h. p., 40%; 151 to 300 h. p., 45%; 301 h. p. and over, 50%. Discount of 10% on consumption of 25 k. w. h. if paid in 10 days. Wiring and lamp renewals at cost.	13.5	-
Charlestown,	.	.	11 cents,	-	1 lamp at \$12 per month,	10 cents,	10	11	Renewals free for carbon lamps. No free wiring. Monthly minimum charge of \$1. Electricity for any use is sold at 11 cents per k. w. h., with discount of 1 cent if paid within 10 days. For power price, 10 cents per k. w. h., with discounts up to 40%, and also demand system at 12 cents for first 23 hours use per month of demand; 9 cents per k. w. h. for electricity furnished in excess of 23 and not exceeding 103 hours use of demand; and 6 cents for all in excess of 103 hours use of demand per month, with a discount of 70% on that portion of monthly bill calculated at 9 and 6 cent rates exceeding		

COMPANY.	LIGHTING.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Areas by Contract.			1912.	1911.
Charlestown — Con., .	-	-	-	-	\$10, and a discount of 30% on monthly bills exceeding \$100 after making all foregoing deductions. Fixed costs: for yearly electric service for any use \$60 per year per k. w. of demand up to and including 15 k. w.; \$36 per year per k. w. of demand exceeding 15 k. w. up to and including 55 k. w.; \$30 per year per k. w. of demand exceeding 55 k. w. Running costs: a price of 5 cents per k. w. h. for electricity furnished up to and including 1,500 k. w. h. per month; 3 cents for all exceeding 1,500 up to and including 5,500 k. w. h. per month, and 2½ cents for all exceeding 5,500 k. w. h. per month.		
Chester,	20 cents, .	-	-	-	No wiring; renewals at customer's expense. A service charge of 50 cents plus 12 cents per lamp of estimated demand, with a primary rate of 20 cents on the first 2 k. w. h. times the demand, and a secondary rate of 10 cents on excess; 10% discount for prompt payment.	20	20
Citizens' (Nantucket),	20 cents, .	83 cents for 4 c. p. lamp. \$1 for 8 c. p. lamp; \$1.50 for 16 c. p. lamp; \$2 for 32 c. p. lamp per month.	-	-	Consumers pay for wiring. Renewals 25 cents each for carbon lamps and tungstens at cost. Minimum monthly charge \$1.	20	20

Clinton.	18 cents. .	According to consumption and hours of burning.	Same rates as incan- descents.	7½ cents. .	First installation free; renewals at cost. Discount on lighting bills: for first 50 k. w. h. per month, dis- count 2 cents per k. w. h.; all over 50 k. w. h., 6 cents; all over 300 k. w. h., 10 cents per k. w. h., if paid in 10 days. Discount on power bills, if paid in 10 days, as follows: for first 1,000 k. w. h. a discount of 2½ cents per k. w. h.; for all over 1,000 k. w. h. a discount of 5 cents per k. w. h. Special rate to two customers. Minimum charge of \$1 per month for light.	16	18
Deerfield River (Con- way).	-	On basis of ½ cent per hour for 50 watts.	\$50 per year, net. .	-	Customers pay for wiring and re- newals.	-	-
Easthampton.	18 cents. .	-	-	6 cents. .	No lamp renewals; wiring at cost. For light, discounts ranging from 2 to 10 cents are allowed for prompt payment, according to monthly consumption. For power, prices range from 6 to 1.9 cents, accord- ing to amount used per month. Minimum monthly charge, \$1 per month, for power, \$1.50, and above 3 h. p., 50 cents per h. p. per month. A sliding scale for power from 6 cents per k. w. h. to 1.9 cents per k. w. h., according to consumption.	16	20
Edison (Boston).	10 cents. .	-	At same rates as incan- descents.	12 cents. .	Renewals free for standard carbon lamps. No free wiring. Minimum charge at rate of \$12 per year per meter. For yearly electric service, \$60 per year per k. w. of demand up to and including 15 k. w.; \$36 per k. w. per year for all k. w. exceed- ing 15 up to and including 55 k. w.; and \$30 per k. w. per year for all k. w. exceeding 55, with 5 cents per	10	11

COMPANY.	Lighting.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	Maximum Net Prices per K. W. H. (Cents).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Aras by Contract.			1912.	1911.
Edison (Boston)— <i>Con.</i>		-	-	-	k. w. h. for first 1,500 k. w. h. consumed per month, 3 cents for all k. w. h. exceeding 1,500 up to 5,500, and 2½ cents for all k. w. h. exceeding 5,500; and for all customers guaranteeing at least 50 k. w. of permanent electric service, 1½ cents for all k. w. h. exceeding 5,500 and up to and including 105,500 k. w. h. per month, and 1½ cents for all k. w. h. exceeding 105,500 k. w. h. For permanent theatrical service, to a customer for not over 150 k. w. the sum of \$2,160 per year and 3 cents per k. w. h. for all electricity consumed. For power, 12 cents per k. w. h. for all electricity furnished per month up to 23 hours use of demand; 9 cents for all exceeding 23 and up to and including 103 hours use of demand; 6 cents for all exceeding 103 hours use of demand, and if that portion of the monthly bill calculated at 9 and 6 cents exceeds \$10, a discount of 70% is allowed on excess, and if the monthly bill, after foregoing deductions have been made, exceeds \$100, a discount of 30% is allowed on the excess.		

Edison (Brookton),	16½ cents,	-	-	-	Each 5-ampere lamp 8 cents for first 25 lamp hours per month and 4 cents per lamp hour for all in excess; for 4-ampere lamp 6 cents for first 25 lamp hours and 3 cents for excess per month; with minimum charges of \$2 and \$1.50 per month respectively. Flaming arc lights 10 cents per k. w. h. Series arc, \$7.50 per lamp per month.	15 cents,	Lamp renewals free for carbon and tungsten lamps. Tungsten lamps at cost. No free incandescent wiring. For light, 16½ cents per k. w. h. for first 30 hours monthly burning, and 10 cents for all in excess, with a monthly minimum charge of \$1 and discount of 10% for prompt payment in 10 days. For power, 1 to 10 h. p. motors, 15 to 5 cents per k. w. h., according to monthly consumption; 10 h. p. and upward in motors, service charge of \$2 per month per k. w. for first k. w. and \$1.25 per k. w. per month for all over 1 k. w. of maximum demand plus current consumed at 3 cents per k. w. h., less sliding scale of discounts, according to size of installations; service charge is made monthly minimum charge on last schedule and \$1 per h. p. per month on first schedules.	15	15
Fall River,	12 cents,	-	-	-	Carbon lamps free; tungstens at cost. No free wiring. Minimum monthly charge of \$1. For light, prices range from 12 to 5 cents, according to amount used. For power, prices range from 10 to 1½ cents, according to amount used. Discount of 10% on all bills if paid before 15th of month. Flat rate for excess indicator meter: residences 1½ cents per connected watt, stores 1½ to 3½ cents per connected watt; discount 20% if paid in 10 days.	10 cents,	Carbon lamps free; tungstens at cost. No free wiring. Minimum monthly charge of \$1. For light, prices range from 12 to 5 cents, according to amount used. For power, prices range from 10 to 1½ cents, according to amount used. Discount of 10% on all bills if paid before 15th of month. Flat rate for excess indicator meter: residences 1½ cents per connected watt, stores 1½ to 3½ cents per connected watt; discount 20% if paid in 10 days.	10.8	10.8

COMPANY.	Lighting.			Power.	Remarks (Discounts, Minimum Charges, etc.).	Maximum Net Prices per K. W. H. (Cents).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Ares by Contract.			1912.	1911.
Fitchburg.	13 cents.	-	Current supplied at meter rates with minimum monthly charge of \$2 per lamp per month on contracts for one year or more; \$3, on contracts for six months or more, and \$5 on contracts for three months or more.	10 cents.	No free wiring. Lamps for new installations free, and free renewals. Minimum charge of \$12 per year. For light, 13 cents for first 100 k. w. h.; 12 cents for next 200 k. w. h.; 10 cents for next 300 k. w. h.; 8 cents for next 400 k. w. h.; 6.5 cents for next 600 k. w. h.; 5.5 cents for next 800 k. w. h. and 4 5 cents for all over 2,400 k. w. h. per month, with discount of 1 cent per k. w. h., if paid in 15 days. Tungsten sign and window lighting, 5 nights to 10 P.M. and 1 night to 12 mid. per week, 8½ cents per 5 watt, 50 cents per 25 watt, 65 cents per 40 watt, 95 cents per 60 watt, \$1.50 per 100 watt and \$3.65 per 250 watt lamp per month. For power, demand system based on 60% of capacity of motors, a minimum charge of \$1 per month per h. p. of demand and prices for current in excess of 10 k. w. h. per h. p. of demand ranging from 5 to 1 cent, according to amount used, with discount of 10% for prompt payment.	12	12
Foxborough.	15 cents.	-	-	10 cents.	No free wiring; renewals, free for carbon lamps; tungstens at customer's expense. Minimum monthly charge of \$1. For light, prices range from 15 to 11 cents, according to monthly	15	15

Franklin (Turners Falls).	12 cents, .	-	-	-	5 cents, .	consumption; discount of 33½% for payment in 10 days to certain business classes using lights until 9 p.m. For power, prices range from 10 to 5 cents, according to monthly consumption. For electric ranges, 6 cents per k. w. h. Wiring at cost and renewals free for carbon lamps; for tungstens, at 18 cents below cost. Minimum monthly charge of \$1. For light, prices range from 12 to 8 cents per k. w. h., according to amount used. Cooking and heating, 3 cents per k. w. h.; \$1 per month minimum. For power, prices range from 5 cents maximum to 2 cents minimum per k. w. h., with no fixed schedule. Minimum charge \$1.50, including 3 h. p. connected; 50 cents for h. p. above 3 h. p. connected.	12	12
Gardner. . . .	15 cents, .	\$7.50, \$9 and \$10.50 per lamp per year for 4, 5 or 6 nights per week.	-	-	5 cents, .	Free renewals of carbon and gem lamps; no wiring. Minimum of \$2 per month for power; none for lighting service. For store lighting, 15 cents per k. w. h. for first 3 k. w. h. per 100 watts connected load, then 6 cents per k. w. h. for all excess, also 25 cents per k. w. h. less 50% discount when consumption exceeds 100 k. w. h. Flat rate lighting: residences, 1½ cents per watt of demand per month; stores, ordinary stores open all night (other than drug stores), 1½ cents per watt of connected load per month. For power, graded scale from 5 to 2.1 cents per k. w. h.	15	15

COMPANY.	Licensing.			Power.	Remarks (Discounts, Minimum Charges, etc.).	Maximum Net Prices per K. W. H. (Cents).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Gloucester, . . .	15 cents, .	-	Gross 15 cents per k. w. h.; discount of 33½% if paid on or before 15th of month.	13.5 cents,	Renewals free for carbon and gem lamps; transient customers at cost. Minimum monthly charge of \$1 for light, \$2.50 for power. Discount on monthly lighting bills: 1 cent per k. w. h. on bills of 8 up to and including 139 k. w. h. per month; 2 cents on bills over 139 k. w. h. on payment of bills before 15th of month; minimum charge of \$1.10 per month gross on bills less than 8 k. w. h. monthly, \$1 net if paid in 10 days. For light, price for transient customers, 20 cents; discount 10% for prompt payment; minimum charge \$1 per month.	14	18
Great Barrington, . . .	18 cents, .	Minimum monthly charge of 87½ cents per 16 c. p. lamp.	At incandescent rates, .	10 cents, .	Renewals free for 60-watt carbon lamps and larger; at customer's expense for 30 and 20 watt lamps. Discount 20% on bills for lighting paid on or before 15th of month. For power, prices range from 10 to 3.2 cents, according to amount used. Minimum monthly charge of \$1 for meter service, and 87½ cents for contract service. Meter rental for lighting less than 7 k. w. h. \$1 on power services if less than 10 k. w. h. are used; 50 cents in addition to power used.	14.4	14.4

	15 cents, .	Contract prices for every night (except Sunday) to 10.30. Sign and window display lighting, using Masda lamps; 60-watt lamp, 60 cents; 100-watt, 90 cents; 5 watt less than 100 lamps, 7½ cents, over 100, 7 cents, per month.	One lamp at \$3.50 each; two lamps at \$5.75 each.	6 cents, .	Lamp renewals free for carbon and gem filament lamps. For light, prices range from 15 to 8 cents, according to amount used, with a discount of 10% if paid in 10 days. For power, prices range from 6 to 1.8 cents, according to amount used. Minimum monthly bill on power service to and including 3 h. p., \$1.50; over 3 h. p., 50 cents for each h. p. connected; minimum rate is charged whether current is used or not.	13.5	13.5
Greenfield,							
Haverhill,	13 cents, .	Flat window and sign rate: lamps burning 5 nights to 10 p.m. and 1 night to 12 p.m., 50 cents to \$6 per month per lamp, according to wattage of lamps: burning same hours, 8½ cents per lamp per month for 4 c. p. 10-volt tungstens. Discount of 10% from above prices if paid within 15 days.	Sold on are lamp hour basis, 500 watts per hour. First 32 hours per lamp burned per month, 6½ cents per lamp hour; next 50 hours, 3½ cents, and the balance, 2½ cents. Discount ½ cent per are lamp hour if paid in 15 days.	13 cents, .	Renewals of carbon lamps free; tungstens at customer's expense. For light, 13 cents, with discount of 1 cent if paid in 15 days and a minimum charge of \$12 net per year. Demand wholesale rate \$50 per year for first 10 k. w. of demand and \$36 for next 40 k. w. of demand with prices for current ranging from 6 to 3½ cents according to amount used per month, with discount of 1 cent per k. w. h. Prices for power 13 cents per k. w. h. for first 10 k. w. h. per h. p. of demand, and for current in excess, at the rate of 4.3 cents per k. w. h. to 1.9 cents per k. w. h., depending upon the k. w. h. consumed; and a discount from total bill of 1 cent per k. w. h. if bill is paid within 15 days from date of bill.	12	12
Huntington,	12 cents, .	From 50 cents to \$4 per month.	-	-	Price for light by meter 12, 10 and 9 cents net. Meter rental 25 cents per month. Customers pay for wiring and renewals at cost.	12	12

COMPANY.	LIGHTING.			POWER. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (GAS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Ares by Contract.			1912.	1911.
Hyde Park, . . .	15 cents, .	-	One customer at \$70 per lamp per year from sunset to 12.30 A.M.	12 cents, .	No free wiring; renewals: carbon lamps free; tungsten and special lamps at cost. For light, discounts from 10 to 50%, according to amount used, if paid in 10 days, with minimum monthly charge of \$1. For power, 12 cents per k. w. h., with following deductions: 9 cents per k. w. h. in excess of 23, and not over 103 hours use of the demand per month; 6 cents per k. w. h. for all in excess of 103 hours use in each month; when customer's bill calculated at 9 cent and 6 cent rate, or both, exceeds \$10 per month, a discount of 70% allowed on all over \$10; when customer's bill, after foregoing deductions are made, exceeds \$100 per month, a discount of 30% is allowed on all in excess of \$100; when a customer's bill, after all deductions have been made, ex- ceeds an average rate of 10 cents per k. w. h., a deduction is made to make average rate 10 cents per k. w. h., but in no case less than \$1 per month.	13.5	13.5

Lawrence,	13 cents, .	-	-	330 watt lamps \$90 each per year, 480 watt lamps \$100 each per year, every night and all night.	10 cents .	Discounts on bills for incandescent lights and power, 10%, if paid by the 15th of the month. Wiring at customer's expense; carbon filament lamps free; tungstens at cost. Minimum monthly charge of \$1. Prices for light range from 13 to 6 cents, and for power from 10 to 2 cents, according to amount used.	11.7	12.6
Lee, .	20 cents, .	75 cents per lamp per month.	-	-	20 cents, .	Halls, churches, etc., 10 to 25% discount. Residences, \$2 net per month and 50% discount on all amounts in excess of \$2 per month. No free wiring or renewals.	20	20
Lenox, .	20 cents, .	-	-	-	-	Discount of 5% on bills of \$1 or more up to \$5. A discount of 10% on all bills of \$5 or over to yearly customers; on all bills of \$25 or over a discount of 15% to those contributing to building lines to their houses; 20% discount to two consumers. Minimum charge, 50 cents per month. No free wiring or renewals.	19	20
Leominster, .	18 cents, .	Contract rates according to consumption and hours of burning. Special rates, 2 customers at 10 cents net, 1 at 16 to 12 cents, according to consumption; theatre lighting, 1 at 15 cents for first 20 k. w. h. per week, all over, 10 cents net.	-	-	7½ cents, .	Renewals at cost. No free wiring. Minimum monthly charge of \$1 to all whose net bills for the year average less than that amount. For light, discount of 4 cents per k. w. h. for first 50 k. w. h. and 6 cents for all in excess used per month if paid in 10 days. For power, discount of 2½ cents for first 1,000 k. w. h. per month and 5 cents for all excess. Special rates for power, 3 with 5% discount additional to regular rate, 2 at 2½ cents, 1 at 2½ cents, 1 at 3 cents, and 1 at .019 cent net.	14	15

COMPANY.	LIGHTING.			POWER. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICES PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Loveland, W. O. (Ashby).	18 cents, .	16 c. p., \$1.25 per month; 32 c. p., \$1.50 per month; and every 32 c. p. added, 25 cents per month.	-	-	No free wiring. Meter rent, \$1 per month. Meter prices: 20 k. w. h., 18 cents; 40 k. w. h., 16 cents; 60 k. w. h., 14 cents; all over, at 12 cents.	18	18
Lowell, . . .	12 cents, .	-	13 cents per k. w. h. for first 50 hours use of connected load, 6 cents for all over 50; \$1.66 per lamp per month minimum charge; discount of 10% if paid in 10 days.	11 cents, .	Regular size metalized and carbon filament lamps free to meter customers and at cost to contract customers. Tungsten lamps free only when customers pay rental of 20 cents per lamp per month. For light in Lowell, North Tewksbury, East Chelmsford and North Chelmsford, 12 cents per k. w. h. gross, \$12 per year net, minimum for residence lighting. Demand system for stores and factories, 13 cents per k. w. h. for first 50 hours use of connected load per month, and 6 cents for all additional current used, with minimum charge based on 25 hours use per month of maximum demand of connected load. In Billerica, Dracut, West Chelmsford, South Chelmsford, Chelmsford Center and Westford, residence lighting, 14 cents per k. w. h. gross, with \$12 per year net minimum. In Tyngsborough, 20 cents per k. w. h. for one hour a day of maximum demand; 6.6 cents per k. w. h. for all over	10.8	10.8

Ludlow.	.	.	.	.	12 cents.	-	-	-	5 cents.	Free renewals. No wiring. Minimum charge, \$10 per year.	12	12
Lynn.	.	.	.	.	11 cents.	-	-	-	6 cents.	Renewals, carbon filament lamps free; tungstens at cost. For light, price 11 cents per k. w. h.; over 285 k. w. h. per month, 9 cents. For stores, price of 7 cents per k. w. h. for exceeding 2,400 k. w. h. per month. When the consumer uses at least 200 k. w. h. per month for day lighting, company will install a 2-rate meter; in such case the sliding scale applies to amounts used on night load only; 5 cents per k. w. h. per month will be charged for day lighting. For power, prices range from 6 to 2½ cents per k. w. h., according to amount used each month. A discount of 1 cent per k. w. h. for payment in 10 days in each instance. Minimum monthly charge of 50 cents for light and \$2 for power.	10	12

COMPANY.	LIGHTING.			POWER.	REMARKS (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Malden,	12 cents, .	1 8 c. p. 30 watt lamp, \$1 and \$1.25 per month; 1 40 c. p. 50 watt lamp, street circuits, \$1.50, \$1.75 and \$1.84 per month.	Same prices as for incandescents.	4.5 cents,	Customers pay for wiring, renewals free for carbon lamps; tungstens at customer's expense. For residence lighting, 12 cents per k. w. h., with discount of 1 cent per k. w. h. if paid in 15 days. For power, service charge of \$1.50 per h. p. per month, and prices for current from 4½ to 1 cent, according to amount used. Minimum monthly charge for incandescent light, \$1 net. For tungsten window and sign lighting 5 nights to 10 p.m. and 1 night to 12 midnight, prices range from 20 c. p. for 50 cents, to 400 c. p. for \$6, 10% discount if paid by 15th of month, and low voltage 4 c. p. 8½ cents per month.	11	12
Manchester,	25 cents, .	-	-	25 cents, .	No wiring or lamp renewals. Summer customers, 25 cents; customers for eleven months or more, 15 cents. Minimum monthly charge of 15 cents per light for summer customers, and 10 cents for others.	25	25
Marlborough,	15 cents, .	-	At incandescent meter rates.	12 cents, .	Customers pay for wiring, renewals of carbon lamps free. For light, demand system, based on 520 primary hours per year; primary rate, 15 cents per k. w. h.; secondary rate, 12 cents per k. w. h.; if customer guarantees for 1 year a monthly	15	15

<p>minimum bill equal to primary usage each month, primary hours are reduced to 400 per year with primary rate of 20 cents per k. w. h.; secondary rate of 6 cents per k. w. h. Minimum monthly charge of \$1. For power, 12 cents per k. w. h. for first 25 hours use per month of maximum demand; for next 50 hours use of maximum demand, 6 cents; and for all current in excess 3 cents, with a discount of 33 1/3% on the excess of all monthly bills figured as above over \$20. If current for both light and power is furnished between 6 A.M. and 6.45 P.M., a special schedule is offered, with base prices of 10 and 4 cents respectively, with sliding scale reducing price as amount used increases. In Westborough: maximum rate by meter 18 cents per k. w. h. No arcs or incandescents by contract. Power, maximum rate of 12 cents per k. w. h.; primary rate based on 520 hours per year per k. w. h., 18 cents; secondary rate 15 cents per k. w. h.; special power circuit, on between 6 A.M. and 6.45 P.M., for light and power with base prices of 16 and 10 cents respectively, with sliding scale reducing as sales increase; other rates same as Marlborough.</p>	<p>20 cents, .</p>	<p>20 cents, .</p>	<p>15</p>	<p>25</p>
<p>Middleton, .</p>	<p>20 cents, .</p>	<p>20 cents, .</p>	<p>15</p>	<p>25</p>

COMPANY.	LIGHTING.			POWER. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Area by Contract.			1912.	1911.
Milford, . . .	20 cents, .	-	-	10 cents, .	Lamp renewals at cost; no free wiring. Minimum monthly charge of \$1 to consumers whose net bills average less than that amount during the year. For light, discount, if paid in 10 days, of 2 cents per k. w. h. for first 15 k. w. h. per month, and of 10 cents for all exceeding 15 k. w. h. Three special rate customers at 10 cents net. For power, discount of 5 cents per k. w. h. if paid in 10 days. No free wiring. No free renewals.	18	18
Mill River (Williams- burg).	20 cents, .	-	-	10 cents, .	Minimum monthly charge of \$1 to customers whose net bill averages less than that amount. For light, discount, if paid in 10 days of 5 cents per k. w. h. for first 30 k. w. h. per month, and 8 cents for all over 30 k. w. h. per month. For power, discounts of 33 to 70%, ac- cording to amount used per month. No lamp renewals. No free wiring. Minimum charge of \$10 per year and 20 cents per month meter rent. No free wiring or renewals. Minimum monthly charge of \$1. Churches, 12 cents.	15	15
Montague, . . .	15 cents, .	-	-	15 cents, .	Prices for light ranging from 13 cents to 3½ cents per k. w. h., according to consumption, with a discount on all bills for light, for payment on or	15	15
Nashua River Paper Corporation (E. Pep- perell).	15½ cents,	-	-	-		15.5	15.5
New Bedford, . . .	13 cents, .	-	-	10 cents, .		12.35	13.3

Newburyport, . . .	18 cents, .	News office, \$40 per month. Custom House, \$13.50 per season for 3 incan- descent lights.	At incandescent rates, .	10 cents, .	<p>before the 10th of the month, 5%. Minimum monthly charge of 75 cents. No wiring. Renewals free. Power prices: for first 15 k. w. h. per h. p. of demand 10 cents per k. w. h.; next 200 k. w. h. at 5 cents; next 200 k. w. h. at 4 cents; next 100 k. w. h. at 3 cents; balance of meter reading at 2½ cents per k. w. h. Mattapoissett lights at 25 cents per k. w. h., less 20% if paid by 10th of month.</p> <p>Discount of 4 cents per k. w. h. from price for light, if paid in 12 days. Discounts on power, 10 to 65%, ac- cording to amount used. One cus- tomer allowed discount of 77½% for power. Renewals at cost. Mini- mum monthly charge of \$1 for light, and \$1 per h. p. for motors.</p> <p>Minimum charge of \$1 per month for not more than 4 16 c. p. lamps. By meter at 10 cents per k. w. h., subject to a discount according to amount of consumption. Renewals free.</p>	14	14
Niles Estate (Boston), .	10 cents, .	-	At incandescent rates, .	10 cents, .	<p>Renewals free. No free wiring. For light, 15 cents per k. w. h., with discounts, if paid in 10 days, of 2½ cents per k. w. h. for first 15 k. w. h. per month, and 7 cents per k. w. h. for all in excess of 15 k. w. h. per month. For power, 5 cents per k. w. h. with a discount of 1 cent per k. w. h. on first 2,000 k. w. h. per month, and 3 cents on all in excess thereof if paid in 10 days. Special rates to certain large consumers.</p>	10	10
North Adams, . . .	15 cents, .	-	-	5 cents, .	<p>Renewals free. No free wiring. For light, 15 cents per k. w. h., with discounts, if paid in 10 days, of 2½ cents per k. w. h. for first 15 k. w. h. per month, and 7 cents per k. w. h. for all in excess of 15 k. w. h. per month. For power, 5 cents per k. w. h. with a discount of 1 cent per k. w. h. on first 2,000 k. w. h. per month, and 3 cents on all in excess thereof if paid in 10 days. Special rates to certain large consumers.</p>	12.5	12.5

COMPANY.	LIGHTING.			Power.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS):	
	Maximum Rates by Meter per Kilowatt Hour.	Ares by Contract.				1912.	1911.
		Incandescents by Contract.					
Northampton, . . .	18 cents, .	According to consumption and hours of burning.	At incandescent rates, .	10 cents, .	Lamp renewals at cost. For light, first 15 k. w. h. per month, discount of 4 cents per k. w. h.; over 15 k. w. h., discount of 8 cents per k. w. h., if paid in 10 days. Minimum charge of \$1 per month. Discount on power, 33 to 70%, according to consumption, if paid in 10 days, and a service charge additional of \$1 per month for $\frac{1}{4}$ h. p., \$1.50 for $\frac{1}{2}$ h. p., \$2 for 1 h. p., \$3 for 2 h. p., \$3.50 for 3 h. p. and \$1 per h. p. for over 3 h. p. Special rates to certain large consumers. Automobile charging stations, public 5 cents net and private 6 cents net per k. w. h.	14	14
North Dana, . . .	-	-	-	-	Flat rate per lamps supplied, 10-12 lamps, \$2.50; 12-15, \$3; and 15-20 \$3.50 per month.	-	-
Norton, . . .	20 cents, .	Porch lights \$1.25 per month; 60 watt lamps \$18 per year.	-	20 cents, .	Minimum charge of \$1.25 per month. No free wiring or renewals. Residence lighting and power, 20 cents per k. w. h., with 5% to 25% discount, according to consumption, if paid before 10th of month. Store lighting 16 cents per k. w. h.; no discount.	19	19
Pittsfield, . . .	10 cents, .	-	-	10 cents, .	Customers pay for wiring. Renewals free for standard lamps. For light, first 2 k. w. h. per month for each 50-	14.4	14.4

Plymouth,	16 cents, .	\$1 per lamp per month for 16 c. p. lamp.	At incandescent rates, .	10 cents, .	<p>watt lamp 16 cents per k. w. h., and all additional electricity 8 cents per k. w. h., with discount of 10% for payment by 15th (and the 20th by Dalton customers) of month; if meter does not register 6 k. w. h. per month, no bill for current will be rendered, but a charge of 50 cents for maintenance of installation will be made. For signs, using not less than 480 watts per hour, 8.3 cents per k. w. h. when owned by customer, and special contract when owned by company, with same discount and meter charge as stated above for light, provided meter does not register at least 10 k. w. h. per month. For power, prices range from 10 to 3.2 cents, according to amount used per month, with a discount of 5% if paid in 15 days, and a discount of 20% to users of power purchasing their own motors; and also with a monthly minimum charge to customers not owning motors of \$1 up to 3 h. p.; of \$3 from 3 to 5 h. p.; of \$5 from 5 to 10 h. p.; of \$10 from 10 to 20 h. p.; and of \$20 from 20 to 40 h. p.; and a meter rent of 50 cents per month to customers owning motors if meter does not register 10 k. w. h. Wholesale rate for power, 2 cents.</p> <p>Wiring at customer's expense. Renewals free for carbon lamps. For light, 16 cents per k. w. h. for current up to 100 k. w. h. per month; for next 100 k. w. h., 13 cents; for</p>	14.4	16.2
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COMPANY.	LIGHTING.			Power.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Ares by Contract.			1912.	1911.
Plymouth — Con.,	-	-	-	-	next 100 k. w. h., 11 cents; and for all additional, 10 cents, with a discount of 10% to "A" customers having a large number of lights but small or infrequent use of them, and 20% to "B" customers who use their lights practically every night in the week, if paid by 10th of month. Minimum monthly charge of \$1. For power prices range from 10 to 2½ cents, according to amount used per month.		
Quincy.	15 cents.	-	By contract \$50 per year for each multiple enclosed arc 6.6 amperes every night from dusk until 11 P.M.	10 cents.	Renewals of standard carbon filament lamps free. Wiring at customer's expense. Discounts on light for payment within 15 days; on monthly bills of more than the minimum and less than \$20, 10%; \$20 or more and less than \$40, 15%; \$40 or more and less than \$60, 20%; \$60 or more and less than \$80, 25%; \$80 or more and less than \$100, 30%; \$100 and over, 33½%; with a minimum monthly charge of \$1 for installations of less than 40 lights, and \$2 for 40 lights or over. Discounts on power from 5% to 65%, according to monthly consumption. A discount of 10% on all power bills if paid on or before 15th of month. A minimum charge	13.5	15

Randolph.	13 cents.	\$1 per month for 16 c. p. lamps to midnight; all-night lamps \$1.10 per month.	-	13 cents.	13	of \$1 per h. p. of demand will be made, which demand will be estimated by the company until proper indicators are installed. Customer pays for wiring. No free renewals. Minimum monthly charge of \$1. Meter rental \$2 per year. For power, prices range from 13 to 4½ cents, according to amount used and conditions under which used A minimum charge of \$1 per month for each h. p. of motor installed.
Salem.	13 cents.	By contract, tungsten sign and window lighting, 5 nights per week to 10 p.m. and one night to midnight; 8½ cents for 4 c. p., 50 cents for 20 c. p., 65 cents for 32 c. p., 96 cents for 48 c. p., \$1.50 for 80 c. p., \$2 for 120 c. p., \$3.65 for 200 c. p., \$5 for 320 c. p., and \$6 for 400 c. p. lamp per month.	Area at meter rates, and multiple glower Nernst lamps by meter only at 13 cents per k. w. h., less 3 cents for prompt payment.	10 cents.	12	Renewals free of carbon and metalized filament lamps; tungstens at customer's expense. Wiring at cost. For light, discount of 1 cent if paid in 15 days. For power, small motors, 2 to 10 cents per k. w. h. by meter; constant service all day, \$50 to \$75 per h. p. per year; also, a discount for load factor, being determined by dividing the kilowatt consumption by the h. p. of demand. Under this system the discount charge a consumer receives for the load factor remains constant regardless the size of his installation. A discount of 10%, if paid within 15 days from date of bill; rate for current, 10 to 2 cents per k. w. h., according to consumption. Load factor discount from 2 to 40% discount, according to consumption; 5% discount for payment in 15 days. Minimum monthly charge of 50 cents for incandescent lighting, \$1 for arc and Nernst lights and \$1 per k. w. of demand for power.

COMPANY.	LIGHTING.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Ares by Contract.			1912.	1911.
Seekonk, . . .	10 cents, .	-	12 cents per k. w. h., .	10 cents, .	Wiring at cost. lamp renewals free for carbon filament lamps; minimum charge of \$10 for season to summer customers, who are required to deposit \$10 as guarantee of payment of bills. To others 10 to 4 cents per k. w. h., according to consumption; contract rate for annual service, charge of \$24 per k. w. for use of maximum demand of 200 k. w. h. or over, plus charge for current used of 8 cents per k. w. h.; for arc lights from 12 to 7.8 cents per k. w. h., according to consumption. Power, a minimum of \$1 per month for less than 2 h. p.; from 2 to 10 h. p., 50 cents per h. p. per month; for installations exceeding 10 h. p., \$5 per month; the base rate is 10 cents per k. w. h., with a varying discount according to consumption.	10	-
South Hadley Falls, .	15 cents, .	Special rates, according to amount used.	-	10 cents, .	Wiring at cost and renewals free. Discounts for prompt payment allowed on monthly bills, for light, ranging from 5 to 50%, and power, from 5 to 40%, according to amount of bill. Minimum charge of 50 cents per month.	14.25	14.25

Spencer, . . .	20 cents, .	Special rates according to consumption.	At incandescent rates, .	-	Minimum charge of \$1 per month. Renewals at cost. Discounts if paid in 10 days, as follows: first 100 k. w. h. per month, 25%; all over 100, 40%.	15	15
Stockbridge, . . .	20 cents, .	-	-	10 cents, .	Free renewals of carbon lamps. Minimum charge of \$1 per month per meter. Discount of 15% on light bills if paid by 15th of month. Prices for power range from 10 to 5½ cents, according to amount used.	17	17
Suburban (Revere), . . .	13 cents, .	By contract from \$1 to \$6.50 per lamp per month, according to hours burned and size of lamp. Tungsten sign and window lighting: 5 nights to 10 P.M., Saturday nights to 12 P.M., from 8½ cents to \$3.65 per lamp per month, according to consumption and size of lamps.	\$10 per lamp per month.	4½ cents, .	Renewals to yearly customers free; to others at cost. Minimum monthly charge of \$1 with annual adjustment, so that amount paid shall not exceed \$12 per year unless consumption exceeds that amount. For light, discount of 1 cent per k. w. h. if paid in 15 days; for a guaranteed consumption of not less than 30,000 k. w. h. per year, for first 30,000 k. w. h. 7 cents; for next 10,000 k. w. h. 6.5 cents; for all over 40,000 k. w. h. 5 cents; and a flat price of 5 cents if more than 100,000 k. w. h. are used in a year; also a demand rate of \$5 per month per k. w. of connected load with a guarantee of a minimum term of 4 consecutive months' service, or \$20, and 8 cents per k. w. h. for first 300 k. w. h., 7 cents for next 600 k. w. h., and 6 cents for all in excess per month. For power, a service charge of \$1.50 per month per h. p., and prices for electricity ranging from 4½ cents to 1 cent per k. w. h., according to amount consumed.	12	13

COMPANY.	LICENSING.			Power.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (Cents).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Sunderland,	20 cents, .	\$10 per year,	-	-	Wiring and renewals at cost. Minimum charge 75 cents per month. Minimum monthly charge of \$1. No free wiring or renewals.	20	20
Tyngsboro,	15 cents, .	-	-	-	Wiring at customer's expense. Renewals free. Minimum monthly charge of \$1. Discount of 10% on bills for light if paid in 10 days. Summer customers 20 cents per k. w. h.; no discount, no minimum. Extra discount of 33½% allowed to certain businesses burning every night until 9 P.M. or later. Also demand rate of \$4 per month per k. w. of connected load plus 7 cents per k. w. h., with discounts of 5 to 30% based on connected capacity. For power, 2½ cents per k. w. h. consumed, and \$2.25 per h. p. per month, less discounts of 15 to 40% based on maximum demand, and 10% discount for prompt payment; also for 1 h. p. and up, 11 cents per k. w. h., and sliding scale, according to consumption; minimum, \$1 per month net per h. p. of connected capacity; no discount.	15	15
Union (Franklin),	16½ cents,	Flat rate 1 60-watt lamp or less, \$1; 2 60-watt lamps or less, \$1.75; 87½ cents for each additional 60-watt lamp; 1 120-watt lamp or less, \$1.75, and for each additional 120-watt lamp, \$1.75 per month, with discount of 5% for prompt payment on all bills over \$1.	-	-	Renewals free. No free incandescent wiring. For light, rates are 12 cents and 8 cents, based on demand system; for consumers using their	15	15
United (Springfield),	12 cents, .	\$1 per 16 c. p. lamp per month.	-	5 cents, .		12	12

Vineyard (Oak Bluffs).	25 cents and 5 cents.	Contracts are taken at minimum charges based on maximum demand unity power factor; com- pany reserves right to install a meter.	-	-	25 cents and 5 cents.	capacity long hours, from 10 to 4 cents per k. w. h.; for term contracts, 4, 5 and 6 cents. Minimum charge of \$8 per year for lights where meter is maintained. For power, prices for current consumed range from 5 to 24 cents, according to h. p. of motors, with a minimum charge of \$20 per h. p. per year. Customers pay for wiring and re- newals. A minimum charge (for 25 watt unit of demand), first unit 87 cents per month, next two, 82 cents each per month, all over three units 44 cents each per month; demand in k. v. a. multiplied by 75 hours per month charged at 25 cents per k. w. h.; all excess at 5 cents. Discounts: June to September, inclusive, 1st to 10th, 20%; 11th to 20th, 10%; October to May, inclusive, 1st to 10th, 30%; 11th to 20th, 15%; short season customers required to make a de- posit of 75 cents per month. Dis- counts from 10 to amount of bill a season of the year, and the promptness of pay- ment. Also demand rate based on connected load of 34 cents per watt per month for first 25 watts, 24 cents for next 50 watts and 14 cents for all over 75 watts of de- mand. Minimum season charge of 30 cents for each 25-watt unit con- nected; and this must amount on demand basis to \$9, and on watt hour basis, with 3 months use guar- anteed, to \$12. Special price to street railway company.	17.5	27
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COMPANY.	LIGHTING.			POWER.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Areas by Contract.			1912.	1911.
Ware,	17 cents, .	16 c. p. lamp, \$8, \$10 and \$12 per year.	-	8 cents, .	Wiring at cost; renewals at 15 cents each. Discounts on incandescent lights by meter range from 17 cents per k. w. h. to 8 cents per k. w. h., according to consumption; 10% discount for payment in 10 days. Minimum monthly charge of 50 cents. For power, 8 cents for first 50 hours of maximum demand, plus gross secondary charge of 2½ cents per k. w. h. for all subsequent current; following discounts based on monthly maximum h. p. demand; from 11 to 20 h. p. 10%, to 301 h. p. and over 50% discount.	15.3	20
Webster,	15 cents, .	\$10 per lamp per year,	-	6 cents, .	For light, prices range from 15 to 6 cents, according to amount of monthly consumption, with discount of 10% for payment by 10th of month. For power, prices range from 6 to 1.8 cents, according to amount used, with 10% discount if paid by 10th of month. Guarantee of \$10 per year. Wiring at cost; renewals free.	13.5	13.5
Weston,	15 cents, .	-	-	6 cents, .	No free wiring. Renewal of carbon lamps free. Minimum monthly charge of \$1. For light for residences, 15 cents per k. w. h., and for churches, stores and factories, 12 cents, with a discount of 10% on	15	15

Weymouth, . . .	15 cents, .	-	-	-	15 cents, .	15	15
<p>second \$100 per year of all bills; 15% on third \$100 and 20% on all over \$300. For power, 6 cents per k. w. h., up to 1,000 k. w. h., per quarter of three months; over 1,000 k. w. h. to 2,500 k. w. h., first 1,000 k. w. h. at 6 cents per k. w. h., balance at 5 cents; over 2,500 k. w. h., first 1,000 k. w. h. at 6 cents, 1,000 k. w. h. to 2,500 k. w. h. at 5 cents, over 2,500 k. w. h. at 4 cents per k. w. h.; \$1 per month for each k. w. of connected load; minimum, \$1 per month.</p> <p>Consumers pay for wiring; renewals at cost. Meter rent 10 cents per month. Minimum charge of \$12 per year, which includes rent of meter. For store lighting, 15 cents per k. w. h. for first 30 k. w. h., and 10 cents per k. w. h. for all thereafter. For power, prices range from 15 to 2 cents, according to size of motor. For 24 hour service power and light over 60,000 k. w. h. per year, 3.8 to 4.1 cents measured on secondary and 4.3 cents measured on primary, per k. w. h.</p>							
Williamstown, . . .	15 cents, .	On contract according to consumption and hours of burning.			5 cents, .	13	13.5
<p>Discount on all lighting bills paid by 10th of month for first 15 k. w. h., 2 cents, and all over 15 k. w. h., 7 cents per k. w. h. Discount on power bills of 1 cent per k. w. h. if paid in 10 days on first 2,000 k. w. h. consumed; on all over 2,000 k. w. h., a discount of 3 cents per k. w. h.; special prices to one customer. Renewals free.</p>							

COMPANY.	LIGHTING.			POWER.	REMARKS (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Ares by Contract.			1912.	1911.
Winchendon, . . .	12 cents, .	16 c. p. lamp burning all night and every night, \$1 per month; 8 c. p. lamp, 75 cents per month; 4 c. p., 50 cents.	-	10 cents, .	Wiring and renewals at nearly cost. Incandescent monthly bills up to 100 k. w. h., 12 cents; next 100 k. w. h., 11 cents; next 200 k. w. h., 10 cents; over 500 k. w. h., 9 cents. Minimum monthly charge of \$1. For power, prices range from 10 to 2 cents, according to amount used. Renewals free for all but Masda lamps. For light, prices range from 12 to 4 cents, according to current consumed, with a minimum monthly charge of 10 cents per lamp connected in shops and factories, and of \$1 for residences. Prices in Leicester for light, 20 cents per k. w. h., with a discount of 25% if paid in 10 days. For power, prices range from 6 to 2 cents, according to amount used, with a minimum charge of \$1 per h. p. per month.	12	20
Worcester, . . .	12 cents, .	-	Burning until 6 P.M., 30 cents per lamp per night; until 10 P.M., 40 cents; until 12 P.M., 50 cents.	6 cents, .	Renewals of carbon lamps free; tungstens at cost. Minimum charge of \$12 per year, payable monthly and adjusted annually. For light, for 520 hours primary use per year of customer's demand, 16 cents, and 12 cents for all secondary usage per k.	12	12
Worcester (Suburban),	16 cents, .	\$9 per 16 c. p. lamp per year for 5 or less lamps to 9 P.M.; \$12 to 12 P.M.; \$15 for all night; with 10% discount for 7 nights; and also 10% discount for 6 to 10 lamps, 15%	-	6 cents, .		16	16

The following table shows the number of *public* electric lamps of each candle-power in use June 30, 1912, and the price paid, also the average number in use during the year ending on that date with the average number of hours per night, and nights per month, that they were run:—

COMPANY.		Price Paid.
Abington and Rockland,	Abington,	{ \$15.67½ per year. \$22.04 per year. \$51.30 per year. \$20 per year. }
	Cohasset,	{ Five-year contract. \$70 per year, for clusters of 300 watts each. \$16 per year. \$16 per year. \$16 per year. \$15.75 per year. \$20 per year. }
	Hanover,	
	Hanson,	
	Norwell,	
	Rockland,	
	Scituate,	
Adams, { Adams, Cheshire,		{ \$25 per year. \$80 per year. \$17 10 per year. }
	Adams, U. S. (Townsend),	\$12.50 per year.
American Woolen Co. (Maynard),		{ \$16 per year. \$75 per year. }
Amesbury,		{ \$16 per year. \$72 per year. \$20.75 per year. \$83.37 per year. }

Amherst, { Amherst, { Hatfield, {	.	.	.	224 32 203	40 425 40	224 32 203	4.6 4.6	26.7 26.7	{ { { \$15 per year. \$65 per year, one are free. 13 lamps to the mile, \$17 per lamp; 16 lamps to the mile, \$15 per lamp.
	.	.	.						
Athol, { Athol, { Erving, { Orange, { Wendell, {	.	.	.	259 100 17 178 77 2	50 75 50 50 75 50	334 17 193 2	10.7 6.1 10.0 6.1	30.5 27.1 30.5 27.1	{ { { { { \$20 per year. \$23 per year. \$20 per year. \$20 per year. \$23 per year. \$20 per year.
	.	.	.						
	.	.	.						
	.	.	.						
Attleborough, { Attleborough, { Attleborough, {	.	.	.	5 406 123 76 20	500 50 100 500 56	5 492 86 20	3.8 6.3 10.6	29.7 29.7 30.5	{ { { \$36 per year. \$17.50 per year. \$25 per year. \$70 per year. \$20 per year.
	.	.	.						
	.	.	.						
Ayer, . . . Ayer, . . . Ayer, . . .	.	.	.	137 6 6	40 450 50	135 6 6	5.0 13.4	30.5 30.5	{ { { \$16.50 per year. \$75 per year. \$16.50 per year.
	.	.	.						
	.	.	.						
Ballou, G. M. (Shirley), { Ballou, G. M. (Shirley), {	.	.	.	73	80	73	5.4	25.3	{ \$12 per year.
	.	.	.						
Beverly, { Beverly, { Topsfield, {	.	.	.	163 9 368 29	50 75 375 50	145 367 29	10.6 5.6	30.5 30.5	{ { { \$21.25 per year. \$30 per year. \$85 per year. \$25.30 per year.
	.	.	.						
	.	.	.						
Blackstone, . . . Blackstone, . . .	.	.	.	69 30	50 320	62 31	10.8	30.5	{ \$30 per year. \$120 per year.
	.	.	.						
Bussards Bay { Barnstable, (Falmouth), { Falmouth,	.	.	.	10 394	31 31	10 318	5.7 6.0	24.3 29.4	{ \$1.40 per month each, for 8 months. \$1.50 per month each, for 4 months in summer.
	.	.	.						

COMPANY.	Number of Public Lamps.	Capacity in Watts.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.	Price Paid.
Cambridge,	{ 585 102 1 72 }	{ 50 75 100 250 }	668 }	10.7	30.5	{ \$23.50 per year. \$29.82 per year. \$82.44 per year for post of 2 lamps, 1 all night, and 1 until midnight. \$90 per year.
Cape (Provincetown),	{ 17 117 }	{ 60 70 }	125	10.1	30.5	\$15 per year.
Central, Mass., { Belchertown, Monson, Palmer, Warren, Wilbraham,	7	40	7	5.5	26.9	\$20 per year.
	145	40	143	5.5	26.9	\$14.04 per year.
	284	40	209	5.5	26.9	\$13.05 per year.
	90	75				
	162	40	159	5.5	26.9	\$13.56 per year.
	40	75				
	60	40	51	5.5	26.9	\$15 per year.
Charlestown,	{ 1 280 }	{ 60 500 }	1 277 }	10.6	30.5	25.31 cents per light per night.
Charlemon,	41	50	41	9.3	30.5	\$8 per year.
Chester,	{ 37 6 }	{ 25 40 }	39	4.0	24.1	{ \$12.50 per year. \$16.50 per year.
Citizens' (Nantucket),	{ 104 18 30 }	{ 40 50 489 }	104 30	4.4	25.7	{ \$15 per year. \$72 per year.
Clinton, { Clinton, Lancaster,	325	40	315	10.7	30.5	\$27.74 per year.
	44	390	45			\$114.43 per year.
	180	40	180	5.7	30.5	\$20 per year.
Deerfield River (Conway),	43	100	43	7.7	30.5	\$12.50 per year.

Easthampton, { Southampton,	260 20	75 75	237 19	10.5 10.9	30.5 30.5	\$25 per year. \$25 per year.
Arlington, .	278	50	300	6.6	30.5	\$10.80 per year, fixed cost; running cost, $\frac{1}{4}$ cent per lamp hour.
	17	75				\$12 per year, fixed cost; running cost, $\frac{1}{16}$ cent per lamp hour.
	3	100				\$14 per year, fixed cost; running cost, $\frac{1}{16}$ cent per lamp hour.
	1	125				\$18 per year, fixed cost; running cost, $\frac{1}{16}$ cent
	7	150	82			\$36 per year, cost, $1\frac{1}{16}$ can
Ashland, .	83	425				\$10.80 per year cost, $\frac{1}{4}$ cent
	79	50	84	7.0	30.5	\$18 per year, fixed cost; running cost, $\frac{1}{16}$ cent per lamp hour.
	7	125				\$10.80 per year, fixed cost; running cost, $\frac{1}{4}$ cent per lamp hour.
Bedford, .	112	50	107	5.3	25.7	\$10.80 per year, fixed cost; running cost, $\frac{1}{4}$ cent per lamp hour.
Bellingham,	33	50	33	4.9	27.2	\$10.80 per year, fixed cost; running cost, $\frac{1}{4}$ cent per lamp hour.
Edison (Boston),	548	50	1,314			\$10.80 per year, fixed cost; running cost, $\frac{1}{4}$ cent per lamp hour.
	14	100				\$12 per year, fixed cost; running cost, $\frac{1}{16}$ cent per lamp hour.
	844	75				\$14 per year, fixed cost; running cost, $\frac{1}{16}$ cent per lamp hour.
	1	125				\$36 per year, fixed cost; running cost, $1\frac{1}{16}$ cents per lamp hour.
	2	100				Gilbert arcs, fixed cost, \$36 per year; running cost, $1\frac{1}{16}$ cents per lamp hour.
	3	425				Magnetite arcs, fixed cost, \$42 per year; running cost, $1\frac{1}{16}$ cents per lamp hour.
	2	500				Thoran arcs, fixed cost, \$42 per year; running cost, $3\frac{1}{16}$ cents per lamp hour.
	2	550				
	3,798	530	3,788	10.5	30.5	
	24	750				
Boston, .	30	530				

* When agreements are made for a longer period than one year, a discount of 1 per cent. per year from the prices stated is allowed for each year up to 10.

COMPANY.	Number of Public Lamps.	Capacity in Watts.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.	Paid.
Brookline.	1	50	20	10.4	30.5	\$10.80 per year, cost, $\frac{1}{2}$ cent per running hour. Ten-year contract.
	27	75	266			\$12 per year, fixed cost, $\frac{1}{2}$ cent per running hour. Ten-year contract.
	269	530				Magnetite arcs, fixed cost, \$42 per year; running cost, $1\frac{1}{2}$ cents per hour. Ten-year contract.
Burlington.	25	50	25	4.7	23.8	\$4; running cost, $\frac{1}{2}$ cent per hour. Ten-year contract.
	299	50				\$4; running cost, $\frac{1}{2}$ cent per hour. Ten-year contract.
Canton.	23	75	321	5.3	26.8	\$12 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour. Ten-year contract.
	9	125				\$18 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour. Ten-year contract.
Carlisle.	39	50	39	5.3	25.7	\$1 cost, $\frac{1}{2}$ cent per hour. Ten-year contract.
	111	425				\$3 cost, $\frac{1}{2}$ cent per hour. Ten-year contract.
Chelsea.	3	500	174	10.5	30.5	Gilbert arcs, \$36 per year, fixed cost; running cost, $1\frac{1}{2}$ cents per lamp hour. Ten-year contract.
	62	530				Magnetite arcs, \$42 per year, fixed cost; running cost, $1\frac{1}{2}$ cents per lamp hour. Ten-year contract.
	484	50				\$10.80 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour. Ten-year contract.
Dedham.	6	75	492	7.9	29.7	\$12 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour. Ten-year contract.
	6	125				\$18 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour. Ten-year contract.
	28	425	28			\$36 per year, fixed cost; running cost, $1\frac{1}{2}$ cents per lamp hour. Ten-year contract.

Dover,	8	50	8	-1	-2	Notes
Framingham,	637	50	614	5.0	28.1	lamp hour. \$12 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
	3	100				fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
	2	75				fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
	3	125				fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
	6	425	16			fixed cost; running cost, $1\frac{1}{2}$ cents per lamp hour.
	9	450				fixed cost; running cost, $1\frac{1}{2}$ cents per lamp hour.
	96	50	115			fixed cost; running cost, $1\frac{1}{2}$ cents per lamp hour.
Holliston,	19	75	4	5.0	28.1	\$10.80 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
	4	425				fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
Hopkinton,	168	50	168	5.0	25.5	\$12 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
	483	50				fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
Lexington,	27	75	470	5.3	25.7	\$10.80 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
Lincoln,	92	50	92	4.6	26.7	\$12 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
Medfield,	175	50	175	4.8	27.1	\$10.80 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
Medway,	292	50	292	4.9	27.3	\$10.80 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
Mills,	60	50	60	4.9	27.2	\$10.80 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
Milton,	784	75	770	10.3	30.5	\$12 per year, fixed cost; running cost, $1\frac{1}{2}$ cents per lamp hour.
	287	50	254			fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.
Natick,	12	425	12	7.0	29.7	\$10.80 per year, fixed cost; running cost, $\frac{1}{2}$ cent per lamp hour.

* When agreements are made for a longer period than one year, a discount of 1 per cent. per year from the prices stated is allowed for each year up to 10.

† These lamps are under control of town authorities.

COMPANY.	Number of Public Lamps.	Capacity in Watts.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.	PRICE PAID.
Needham, .	624	40	617	5.5	27.7	For 1,600 hours' burning, 400 lamps at \$15 each; excess over 400 lamps, \$13 each; additional hours at $\frac{1}{10}$ cent per hour.
	4	425	6			Each arc incandescent.
	2	450				Twenty-
	1,470	50				from $\frac{1}{10}$ cent discount
	120	75	1,683			inning
Newton, .	104	125		6.2	30.5	\$10.80 per year, fixed cost; running cost, $\frac{1}{10}$ cent per lamp hour.
	111	530	107			\$12 per year, fixed cost; running cost, $\frac{1}{10}$ cent per lamp hour.
						\$18 per year, fixed cost; running cost, $\frac{1}{10}$ cent per lamp hour.
Norfolk, .	144	50	115	4.9	27.2	Ten-year contract, $\frac{1}{10}$ cent per
Sharon, .	281	50	266	4.9	25.4	cost $\frac{1}{10}$ cent per
Sherborn, .	40	50	40	7.5	29.3	cost $\frac{1}{10}$ cent per
Somerville, .	4	50				lamp hour. Ten-year contract, $\frac{1}{10}$ cent per year, net.
	774	50	766			\$15.50 per year, fixed cost; running cost, $\frac{1}{10}$ cent per lamp hour.
	40	125				\$18 per year, fixed cost; running cost, $\frac{1}{10}$ cent per lamp hour.
	406	425		10.5	30.5	\$36 per year, fixed cost; running cost, $\frac{1}{10}$ cent per lamp hour.
	52	530	476			\$42 per year, magnetite arcs, fixed cost; running cost, $\frac{1}{10}$ cents per lamp hour.

Fitchburg,	{ 378 364 319 }	{ 50 75 430 }	{ 357 337 }	{ 10.8 }	{ 30.5 }	{ \$18.72 per year. \$50 per year for each of 91 clusters of 4 75 watt tungstens. \$86.40 per year. }
Foxborough, { Foxboro, . Plainville, .	{ 95 54 78 }	{ 50 75 40 }	{ 146 78 }	{ 6.5 5.6 }	{ 30.5 30.5 }	{ \$17 per year. \$18 per year. }
Franklin (Turners Falls),	{ 6 95 16 }	{ 40 75 500 }	{ 94 16 }	{ 10.8 }	{ 30.5 }	{ \$24 per year. \$82.50 per year. } Five-year contract.
Gardner, { Barre, . Gardner, . Hubbardston, . Westminster, .	{ 100 334 50 37 }	{ 75 75 75 75 }	{ 100 312 50 37 }	{ 5.3 8.8 4.5 4.7 }	{ 30.4 29.5 29.4 29.4 }	{ \$20 per year. \$25 per year. \$20 per year. \$20 per year. }
Essex,	{ 119 1 862 13 90 }	{ 40 450 40 450 450 }	{ 114 1 785 13 90 }	{ 5.8 5.8 8.6 }	{ 26.8 26.8 29.1 }	{ For first 104 lamps, \$15.38 each per year; all others, \$15.25 each per year; one arc free. Incandescents: \$14.50 each per year for first 650 lamps; next 50, \$14.25 each; all others, \$14 each. Arcs: first 80 lamps at \$80 each per year; next 15 lamps at \$79; next 15 lamps at \$78 each; all others at \$77 per lamp. Lamps burning until 1 A.M., \$70 each. }
Gloucester, { Gloucester, . Rockport, .	{ 236 8 }	{ 40 450 }	{ 213 8 }	{ 5.8 }	{ 26.8 }	{ \$13.75 per year. \$66 per year. }
Great Barrington,	{ 205 39 13 6 }	{ 50 90 100 475 }	{ 255 6 }	{ 10.4 }	{ 30.5 }	{ \$18.50 per year. \$70 per year. }

¹ When agreements are made for a longer period than one year, a discount of 1 per cent. per year from the prices stated is allowed for each year up to 10.

COMPANY.	Number of Public Lamps.	Capacity in Watts.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.	PRICE PAID.
Greenfield, { Bernardston, . Buckland, . Colrain, . Deerfield, . Greenfield, . Northfield, . Shelburne, .	{ 29 4 50 4 15 70 144 87 115 59 5	{ 40 250 40 250 50 75 60 320 40 40 250	{ 33 52 15 46 125 84 107 64	{ 10.8 10.8 10.8 10.8 10.8 10.8 10.8	{ 30.5 30.5 30.5 30.5 30.5 30.5 30.5	{ \$16.20 per year. \$50 per year. \$16.20 per year. \$50 per year. \$30 per year. \$25 per year. \$22 per year. \$78 per year. \$11.73 per year. \$16.20 per year. \$50 per year.
	{ 95	{ 50	{ 85	{ 10.6	{ 30.5	{ 3 lamps at \$26 each per year, and 3 lamps free; 1 lamp at \$25 per year; 88 lamps at \$20.80 each per year. \$100 per year.
	{ 201	{ 200	{ 201	{ 8.4 6.7	{ 27.1 24.5	{ \$15 per year. \$70 per year.
	{ 611	{ 50	{ 591	{ 9.5	{ 30.4	{ \$10.80 per year, fixed cost; running cost, 1 cent per lamp hour. \$42 per year, fixed cost; running cost, 1 1/2 cents per lamp hour.
	{ 78	{ 500	{ 74	{ 6.4	{ 29.1	{ \$16 per year. \$17 per year. \$70 per year. \$20 per year. \$80 per year. \$90 per year.
	{ 210 8 29 615 228 347 18 309 1	{ 32 50 480 50 310 480 510 50 480	{ 215 29 614 225 362 305 1	{ 10.9	{ 30.5	{ \$17 per year. \$70 per year.
	{ 36 8	{ 330 480	{ 44	{ 7.0 6.7	{ 29.4 29.3	{ \$17 per year. \$70 per year. \$65 per year.
Haverhill,						
Huntington,						
Hyde Park,						
Lawrence, { Andover, . Lawrence, . Methuen, . North Andover, .	{ 210 8 29 615 228 347 18 309 1	{ 32 50 480 50 310 480 510 50 480	{ 215 29 614 225 362 305 1	{ 6.4 10.9 7.0 6.7	{ 29.1 30.5 29.4 29.3	{ \$16 per year. \$17 per year. \$70 per year. \$20 per year. \$80 per year. \$90 per year. \$17 per year. \$70 per year. \$65 per year.

COMPANY.		Number of Public Lamps.	Capacity in Watts.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.	Price Paid.
Malden,	Everett,	{ 665 165½ 1,172 23 123½ 628 172½ 643 62 }	{ 50 430 50 50 430 50 430 50 430 }	{ 659 161 1,165 23 124 624 172 642 62 }	{ 5.2 8.6 8.6 10.8 6.3 9.3 8.6 }	{ 28.1 30.0 30.1 30.5 29.2 30.1 30.0 }	{ \$15 per year. \$88 per year. \$18.30 per year. \$20.80 per year. \$96 per year. \$14.22 per year. \$76.63 per year. \$16.70 per year. \$74.25 per year. }
	Malden,						
	Medford,						
	Melrose,						
Marion,	.	{ 290 15 }	{ 40 75 }	268	5.3	23.3	{ \$15 per year. \$21 per year. }
	.						
Marlborough,	Berlin,	39	50	38	6.7	27.2	\$17.50 per year.
	Bolton,	10	50	10	5.6	27.7	\$18 per year.
	Fayette,	71	50	70	6.7	27.2	\$18 per year.
	Marlborough,	{ 410 270 }	{ 50 75 }	666	6.8	30.5	\$17.50 per year.
	Northborough,	137	50	137	6.7	27.2	\$16 per year.
	Southborough,	143	50	139	6.7	27.2	\$18 per year for 17 lamps; \$15.75 per year for 119 lamps; 5 lamps free and 2 paid by private parties.
	Southville,	66	50	64	6.7	27.2	\$18 per year.
	Westborough,	{ 128 59 }	{ 50 75 }	183	6.0	28.1	{ \$17.80 per year. \$20.80 per year. }
Milford,	Hopedale,	167	40	166	6.1	30.5	\$22.50 per year.
	Milford,	{ 139 17 }	{ 40 425 }	138 17	10.4	30.5	{ \$5,000 per year for 17 arcs and 134 incandescents; additional arcs, \$105 each per year; additional in- candescents, \$24 each per year. }
Mill River,	.	88	40	88	5.3	27.2	\$15 per year.
Montague,	.	37	56	37	4.1	23.6	\$5 per year.

N. R. Paper Co. (East Pepperell),	187	40	187	4.3	23.9	11 cents per k. w. hour.
{ Fairhaven, . . .	131	40	132	5.6	20.0	{ 5 ¹⁰ / ₁₆ cents per night.
{ Fairhaven Bridge, .	2	150	5	11.0	30.5	{ \$12 per year.
{ New Bedford, . . .	5	250	25	10.9	30.5	{ \$24 per year.
{ New Bedford, . . .	32	40	371			{ 7 cents per night.
{ New Bedford, . . .	5	40				{ \$25.55 per year.
{ New Bedford, . . .	427	100				{ \$26 per year.
{ New Bedford, . . .	2	375				{ \$97.56 per year.
{ New Bedford, . . .	4	500				{ 4 park lights 27 cents per light per night.
{ New Bedford, . . .		550				{ \$175 per year.
Newburyport, . . .	41	40	37	10.7	30.5	{ \$30 per year.
North Adams, . . .	175	400	176			{ \$90 per year.
North Adams, . . .	58	50	57	10.8	30.5	{ \$25 per year.
Northampton, . . .	229	325	221			{ \$80 per year.
Northampton, . . .	396	50	386	6.0		{ \$19 per year.
Northampton, . . .	69	425	66			{ \$70 per year.
Northampton, . . .	16	50	16	10.8	30.5	{ \$28 per year.
Northampton, . . .	1	140	49			{ \$90 per year.
Northampton, . . .	49	425				
North Dana (A. W. Mason), . .	40	40	40	4.9	22.0	40 lamps at \$50 per month.
Pittsfield, { Dalton, . . .	240	40	237	5.9	30.5	\$15.70 per year.
Pittsfield, { Pittsfield, . . .	939	40	921			{ \$16.40 per year.
Pittsfield, { Pittsfield, . . .	122	450	121	10.5	30.5	{ \$75.05 per year.
Pittsfield, { Pittsfield, . . .	22	500	22			{ \$113.05 per year.
Plymouth, { Kingston, . . .	28	50	27	9.5	29.9	\$20 per year.
Plymouth, { Plymouth, . . .	395	50	392	9.5	29.9	\$16 per year.
Quincy, . . .	944	40	917	10.4	30.1	{ \$18.75 per year.
Quincy, . . .	1	250	177			{ \$40 per year.
Quincy, . . .	187	425				{ \$87.50 per year.

COMPANY.	Number of Public Lamps.	Capacity in Watts.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.	Price Paid.
Randolph, { Holbrook, . . . Randolph, . . .	{ 96 4 149 13 2 22	{ 50 75 30 60 75 430	{ 68 4 160 22	{ 4.8 8.5 4.8	{ 27.1 29.1 27.1	{ \$15 per year. \$80 per year for cluster of 4 lamps. \$13.50 per year. \$25 per year. \$37.50 per year. \$70 per year.
	{ 2 792 234 25	{ 50 75 425 488	{ 748 254	{ 10.7	{ 30.5	{ \$36,750 per year for 225 General Electric arcs, 25 magnetite arcs and 700 incandescent lamps; additional arcs, for 6.6 ampere \$91.20 each; for 6.6 ampere constant current magnetite arcs, \$106.40 per lamp per year; each additional 75 watt tungsten lamp at \$21.11 per year; 2 50 watt multiple lamps \$9.12½ per lamp per annum until 12 o'clock.
	{ 7 67 180	{ 60 75 75	{ 46 177	{ 5.6 10.8	{ 30.5 30.5	{ \$17 per year. \$25 per year.
	{ 189 24	{ 50 400	{ 186 24	{ 5.2	{ 27.0	{ \$5,076 per year for 24 arcs and 186 incandescents; additional arcs \$75 each per year; additional incandescents \$18 each per year.
Stockbridge, . . .	{ 161 7	{ 40 75	166	4.7	26.6	{ \$15 per year for each 40 watt lamp from pole lines. \$27 per year for each 40 watt lamp from underground system. 25 cents per month extra for each 75 watt lamp.
Suburban, { Revere, . . . Winthrop, . . .	{ 339 129 311 78	{ 50 430 50 430	{ 312 133 281 77	{ 8.6 8.6	{ 30.0 30.0	{ \$16.54 per year. \$73.35 per year. \$19.30 per year. \$88 per year.

Sunderland,	21	50	21	4.6	24.7	\$15 per year.
Tyngsboro,	63	40	60	6.5	30.5	\$10 per year.
Union (Franklin).	{ Bellingham,	50	21	6.6 }	30.5	\$16 per year.
	{ Franklin, Pond St.,	40	25	6.8 }	30.5	\$16 per year.
	{ Franklin,	50	8	4.3 }	30.5	\$16 per year.
	{ Franklin,	50	287	6.6 }	30.5	\$16 per year.
U n i t e d (Springfield).	{ Agawam,	100	7	11.0	30.5	\$15 per year for incandescents; \$20 per year if from underground lines. \$71.50 per year for arc lamps on overhead lines. \$83 per year for arc lamps on underground lines.
	{ Ludlow,	400	1	11.0	30.5	
	{ Springfield, bridges, etc.,	100	75	11.0	30.5	
	{ Springfield,	100	273	11.0	30.5	
	{ Springfield,	400	1,244	11.0	30.5	
	{ West Springfield,	100	315	11.0	30.5	
Vineyard (Oak Bluffs).	{ Edgartown,	400	34	11.0	30.5	\$22.80 per year.
	{ Edgartown,	32	42	9.9	27.0	
	{ Oak Bluffs,	32	183	6.3	26.5	
	{ Oak Bluffs,	40	183	6.3	26.5	
Ware, {	{ Tisbury,	60	21	6.2	27.3	{ \$9 per month, for 4 months. \$16.80 per year.
	{ Hardwick,	250	32	6.2	27.3	
	{ Ware,	32	32	5.6	26.8	
	{ Ware,	475	9	8.9	30.5	
Webster, {	{ Dudley,	40	32	5.6	26.8	{ \$18.75 per year. \$75 per year. \$24 per year. \$89.21 per year.
	{ Oxford,	475	35	8.9	30.5	
	{ Dudley,	475	63	8.9	30.5	
	{ Oxford,	475	63	8.9	30.5	
Webster, {	{ Southbridge,	50	130	10.4	30.5	{ \$13.30 per year. \$12.25 per year. \$14.15 per year. \$17.77 per year. \$26.72 per year. \$93.29 per year. \$12.35 per year. \$17.77 per year. \$93.29 per year.
	{ Southbridge,	50	208	10.4	30.5	
	{ Southbridge,	75	287	5.4	25.0	
	{ Southbridge,	50	58	10.4	30.5	
Webster, {	{ Sturbridge,	100	82	6.4	25.0	{ \$12.35 per year. \$17.77 per year. \$93.29 per year.
	{ Sturbridge,	475	168	10.4	30.5	
	{ Webster,	50	84	10.4	30.5	
	{ Webster,	475	84	10.4	30.5	

COMPANY.	Number of Public Lamps.	Capacity in Watts.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.	PRICE PAID.
Weston, { Sudbury, Wayland, Weston,	134 102 445	50 50 50	134 102 445	5.4 5.4 5.4	26.8 26.8 26.8	\$12.50 per year. \$12.50 per year. \$12.50 per year.
Weymouth,	{ 432 20	{ 40 482	{ 423 22	5.8	28.9	{ \$17 per year. \$70 per year.
Williamstown,	{ 71 36	{ 50 325	{ 70 37	7.7	30.5	{ \$18 per year. \$65.70 per year.
Winchendon,	{ 62 118 14 2	{ 50 87 400 600	{ 169 17	5.0	25.4	{ \$15 per year. \$75 per year. \$87.48 per year.
Worcester, { Leicester, Worcester,	230 { 1,152 976	50 75 400	215 805 958	5.7 10.7	30.5 30.5	\$16 per year. { \$23.50 per year. \$80.30 per year.
Worcester (Suburban), { Douglas, Grafton, Millbury, Northbridge (Rockdale), Northbridge (Whitinsville), Sutton (Center), Sutton (Mancung), Sutton (Wilkinsonville). Upton, Uxbridge,	117 246 158 87 80 6 237 6 65 35 21	40 40 40 75 40 75 40 75 40 40 40	114 243 214 86 243 65 35 21	4.8 5.3 5.0 5.1 5.5 5.0 4.8 5.2	26.4 25.4 27.5 26.2 27.3 27.5 26.4 25.4	\$13.50 per year. \$13.50 per year. \$13.50 per year. \$16.50 per year. \$13.50 per year. \$14.50 per year. \$17.50 per year. \$14 per year. \$14 per year. \$13.50 per year.
						Five-year contract.
						Ten-year contract.
						Five-year contract for each town.
	100 163 35	75 40 75	100 195	5.0 5.7	26.4 28.4	\$16.50 per year. \$15 per year. \$18.25 per year.
						Three-year contract. Five-year contract.

MUNICIPAL OWNERSHIP.

Official replies to inquiries relative to action about a municipal gas or electric lighting plant have been received from 183 towns and cities, including all the cities and substantially all the towns in which the population exceeds 1,500 and in which no such action has previously been taken. Except as stated on pages 207-212, none of these have taken action during the year.

Pages 198-206 contain a tabular statement intended to show briefly all action within the State in respect to the municipal ownership of gas or electric light plants prior to 1912. The pages following contain carefully prepared abstracts from the reports of town officers showing, in two sections, the history of this subject during the last calendar year. The first section (pages 207-212) exhibits the action of those towns which are not engaged in the lighting business, but have during the year considered propositions to undertake it. The second section relating to municipal plants in actual operation contains two parts: the first part (pages 212-244) setting forth certain financial data relative to the preceding municipal fiscal year, with the estimates and appropriations of the current fiscal year, taken from information furnished the Board by various town officers, and the second part (pages 245-266) setting forth certain general financial and physical data relative to the plants from the returns made to the Board as of June 30, 1912. In Appendix C will be found, under date of June 30, 1912, the separate balance sheets, profit and loss and manufacturing accounts from the annual returns of the different municipalities. Appendix F contains detailed statistics relative to the municipal plants, compiled from the annual returns of June 30, 1912.

Tabular Statement showing Action about Municipal Gas or Electric Plants prior to Jan. 1, 1912.

	Votes favorable to Acceptance of Municipal Ownership Act.			Votes against Acceptance of Municipal Ownership Act.	Remarks.
Arlington, . . .	Dec. 29, 1894	-	-	May 13, 1895	Investigating committee report in 1895.
Ashburnham, . . .	Aug. 27, 1907	Oct.	20, 1907	-	Votes favorable to acquiring an electric lighting system were 52 to 4, and 53 to 1. Nov. 1, 1907, the town acquired plant formerly of Greene Electric Light, Power and Manufacturing Company.
Ayer, . . .	Nov. 15, 1897	-	-	April 4, 1898	-
Belmont, . . .	March 2, 1896	Aug.	20, 1896	-	Electric distributing plant of local company taken by town May 3, 1898. Current bought from Somerville company until Oct. 1, 1902, and thereafter from Cambridge company.
Beverly, . . .	-	-	-	-	Adverse committee report in 1897.
Billerica, . . .	Aug. 6, 1901	-	-	Oct. 15, 1901	-
Boston, ¹ . . .	Jan. 5-9, 1905	-	-	Feb. 8, 1906	-
Boylston, . . .	-	-	-	{ April 17, 1911 } { May 15, 1911 }	Propositions lost for lack of requisite two-thirds; votes were 28 to 21 and 37 to 33 respectively.
Braintree, . . .	Aug. 25, 1891	Oct.	29, 1891	-	Pl rest lighting only, started Oct. 15, 1892. it completed October, 1894.
Brookton, ¹ . . .	Dec. 30, 1892	Nov.	9, 1893	-	Proposition rejected by the voters at annual election in December, 1893.
Brookline, . . .	-	-	-	-	Adverse committee report accepted in 1891.

Cambridge, ¹	Nov. 23, 1893	{ Dec. 12, 1894 } { Dec. 31, 1895 }	-	-	City council refused to submit question to voters, 1893. Proposition rejected by the voters in 1896. Adverse committee report in 1906.
Canton,	-	-	-	-	Investigating committee appointed in 1897.
Chicopee, ¹	Nov. 30, 1891	Dec. 16, 1892	-	-	Popular vote upon establishing an electric light plant, December, 1894. Yes, 1,504; no, 182. Began to operate plant in May, 1896.
Clinton,	July 14, 1908	-	-	-	Favorable vote was 223 to 27. No vote taken in 1909.
Concord,	March 30, 1896	March 29, 1897	-	-	Electric plant built and put in operation in January, 1900.
Danvers,	-	-	-	-	Under special act. Plant for electric street lighting only started Jan. 2, 1889. Plant for commercial lighting built in 1896.
Dedham,	-	-	-	-	Investigating committee appointed in 1897. Adverse committee report in 1899, and a ten-year contract made with the local company.
East Bridgewater,	-	-	-	-	Investigating committee appointed in 1892. No report.
Erving Electric Light District,	July 2, 1909	Sept. 3, 1909	-	-	District established by Acts of 1909, chapter 496.
Everett,	March 1, 1892 ²	{ March 18, 1893 ¹ } { Jan. 9, 1894 }	Jan. 26, 1892 ²	-	Adverse committee report adopted Nov. 27, 1894. Adverse committee report in 1895. New investigating committee appointed in 1901. Proposition referred to a new committee in 1905.
Fall River,	Dec. 4, 1899 ²	{ July 6, 1903 } { Feb. 1, 1904 }	Aug. 1, 1904	-	Adverse committee report adopted Oct. 5, 1891. Proposition referred by the aldermen to the next city government in 1899. Vote of Feb. 1, 1904, annulled and rescinded on Aug. 1, 1904. Adverse committee report in 1906.
Frammingham,	-	-	-	-	Investigating committee, 1891.

¹ The votes stated were passed by the city council. ² This vote by the town before chartered as a city. ³ In common council only.

Tabular Statement showing Action about Municipal Gas or Electric Plants prior to Jan. 1, 1912—Continued.

	Votes favorable to Acceptance of Municipal Ownership Act.		Votes against Acceptance of Municipal Ownership Act.		Remarks.
Georgetown,	-	-	-	-	Investigating committee appointed March 6, 1911.
Groton,	April 5, 1909	July 2, 1909	-	-	Plant began operation Nov. 20, 1909.
Groveland,	Oct. 22, 1906	Dec. 26, 1906	-	-	Plant began operation April 1, 1907.
Haverhill, ¹	{ Dec. 8, 1892 Dec. 23, 1909	{ June 9, 1910 -	Dec. 30, 1891 Dec. 6, 1910	-	quire gas and electric light 23, 1909. Similar vote ric plant on June 9, 1910, t city election by vote of 798.
Hingham,	March 13, 1893	July 26, 1893	-	-	Investigating committee, 1891 and 1892. Electric distrib- uting plant purchased from Weymouth company. Cur- rent bought from that company.
Holden,	{ May 27, 1909 June 20, 1911	{ - Sept. 5, 1911	-	-	etric light plant lost for want of requi- s, the vote standing 135 yes and 86 no. acquiring tricity — 147 to 52 and 159
Holyoke, ²	Dec. 15, 1896	Jan. 5, 1897	-	-	Popular 14, 189 vote i with specia. obligation under the general law to take the lighting plants of the company. Yes, 1,926; no, 2,136; blanks, 17. Water power company's plant taken under decree of the court on Dec. 15, 1902.

Hopkinton,	.	.	-	-	-	-	-	Investigating committee chosen in 1906. Committee reported Aug. 2, 1906, and town voted to make a ten-year street-lighting contract with Edison company of Boston.
Hudson,	.	.	July	1, 1891	Sept.	2, 1891	-	Adverse committee reports adopted Nov. 11, 1891, and March 15, 1892. Town required by decree of court (1896) to take plant of existing company; possession taken Jan. 15, 1897. New plant put in operation Aug. 8, 1897.
Hull,	.	.	June	23, 1894	Oct.	6, 1894	-	Electric plant of local company bought Oct. 15, 1894.
Ipswich,	.	.	May	27, 1901	Sept.	23, 1901	-	Electric light plant built in 1903.
Lawrence, ¹	.	.	-	-	-	-	April 3, 1905	Investigating committees appointed in 1893, 1897 and 1898.
Leominster,	.	.	-	-	-	-	April 12, 1905	-
Lexington,	.	.	-	-	-	-	Nov. 7, 1899	Investigating committee appointed in 1893.
Littleton,	.	.	Sept.	5, 1911	Nov.	6, 1911	-	First vote of chapter 34, R. L., relating to the manufacture and distribution of electric light 101 yes to 8 no. Second vote 101 yes to 8 no. Third vote 101 yes to 8 no.
Lowell,	.	.	-	-	-	-	-	Subject referred to a committee in 1906.
Malden, ²	.	.	-	-	-	-	-	Proposition for investigating committee lost, Oct. 15, 1891.
Manchester,	.	.	July	28, 1902	-	-	Oct. 13, 1902	Investigating committee in 1893. Report made with no result.
Mansfield,	.	.	July	17, 1901	Oct.	16, 1901	July 23, 1903	Motion to acquire an electric plant lost by vote of 109 for to 58 against, as statute requires two-thirds vote.
							-	Electric light plant built in 1903-04.

¹ The votes for were passed by the municipal council, and the vote against by the votes at city election.² The votes stated were passed by the city council.

Tabular Statement showing Action about Municipal Gas or Electric Plants prior to Jan. 1, 1912 — Continued.

	Votes favorable to Acceptance of Municipal Ownership Act.		Votes against Acceptance of Municipal Ownership Act.		Remarks.
Marblehead, . . .	June 22, 1891	June 15, 1892	-	-	Electric plant constructed in 1894.
Medford, ¹ . . .	{ April 15, 1893 June 13, 1905 }	April 30, 1894	-	-	Investigating committee appointed in 1893 and special com- mission in 1895. Adverse report in 1897, and commission continued.
Melrose, . . .	June 8, 1891	March 21, 1892	-	-	Town refused to authorize bonds for a plant March 28, 1892.
Merrimac, . . .	May 16, 1903	Jan. 30, 1904	-	-	Began to operate new electric plant in 1904.
Methuen, . . .	-	-	March 19, 1898	-	Voted to pass over article in warrant, 1891. Investigating committee appointed in 1895.
Middleborough, . . .	March 25, 1893	Oct. 28, 1893	-	-	Combined gas and electric plant purchased of local company in 1893.
Millers Falls Water Supply District, . . .	-	-	-	-	Operating under special act passed in 1903.
Monson, . . .	-	-	-	-	Investigating committee appointed April 3, 1911.
Natick, . . .	-	-	-	-	Voted to pass over article in warrant, 1897.
Needham, . . .	March 7, 1892	May 31, 1892	-	-	Electric distributing plant for street lighting only con- structed, 1893. Investigating committee on generating plant appointed April 1, 1907. On Jan. 7, 1908, town authorized sale of plant, and on March 2, 1908, sale was made.
New Bedford, . . .	-	-	-	-	Unfavorable committee report accepted Sept. 11, 1890. Investigating committee appointed in 1897.
Newburyport, . . .	-	-	-	-	Proposition referred to next city government in 1905.

Newton, ¹ . . .	Dec. 4, 1893	-	-	-	Resolve adopted by city council favoring a plant solely for municipal purposes in 1897.
North Adams, . . .	-	-	-	-	Adverse committee report in 1906.
North Attleborough, . . .	June 30, 1891	April 16, 1892	-	-	Electric plant built in 1894.
Northampton, . . .	-	-	-	-	Investigating committee appointed March 2, 1911.
Norwood, . . .	April 13, 1905	April 9, 1906	-	-	Favorable committee report tabled April 19, 1892. Plant constructed and operation begun Aug. 15, 1907.
Peabody, . . .	June 18, 1891	Aug. 20, 1891	-	-	Plant for electric street lighting started Sept. 27, 1892. Commercial plant started Nov. 10, 1893.
Pepperell, . . .	-	-	-	-	Investigating committee appointed June 19, 1906, reported March 25, 1907. Report accepted as "report of progress."
Plymouth, . . .	-	-	-	-	Investigating committee appointed in 1891.
Quincy, . . .	-	-	-	-	Proposition referred to next city government in 1905.
Reading, . . .	Oct. 2, 1891	March 7, 1892	-	-	Electric lighting plant built in 1895.
Revere, . . .	May 15, 1899	Sept. 11, 1899	-	-	Investigating committee appointed in 1898. Action in 1899 in favor of a gas plant only. Investigating committee appointed Dec. 12, 1910.
Rockland, . . .	-	-	-	-	Investigation by committee authorized in 1896. Favorable report in 1897; no action taken.
Rockport, . . .	-	-	{ June 21, 1898 } { April 29, 1899 }	-	Investigating committee appointed in 1906.
Rowley, . . .	Dec. 17, 1909	Feb. 12, 1910	-	-	First vote to establish municipal lighting system adopted, yes, 131; no, 6. Second vote, yes, 122; no, 2. Plant constructed and operation begun July 7, 1910.

¹ The votes stated were passed by the city council.

Tabular Statement showing Action about Municipal Gas or Electric Plants prior to Jan. 1, 1912 — Continued.

	Votes favorable to Acceptance of Municipal Ownership Act.		Votes against Acceptance of Municipal Ownership Act.		Remarks.
Saugus, . . .	-	-	-	-	Investigating committee appointed in 1897.
Sharon, . . .	-	-	-	-	Investigating committee appointed in 1897. Investigating committee appointed in 1907. On March 2, 1908, committee reported adversely, and town authorized a long-term street-lighting contract with Edison company of Boston.
Shrewsbury, . .	March 2, 1908	May 12, 1908	-	-	Votes favorable to acquiring an electric distributing plant were 115 to 22, and 110 to 16, respectively. Plant constructed in 1908.
Spencer, . . .	-	-	Oct. 6, 1891	-	-
Somerville, . .	-	-	Dec. 29, 1897	-	-
South Hadley, .	-	-	March 15, 1909	-	Proposition indefinitely postponed by vote of 105 to 26.
Springfield, . .	-	-	-	-	Favorable vote in city council Dec. 7, 1892, but held to be inoperative because mayor did not approve. Adverse report from investigating committee in 1893. Investigating committee appointed May 23, 1911, and appropriation to defray its expenses refused on Nov. 20, 1911.
Sterling, . . .	Nov. 26, 1910	Jan. 28, 1911	-	-	Votes favorable to acquiring an electric light plant were 124 to 48 and 144 to 50 respectively. Plant constructed and began operation Nov. 1, 1911.
Stoneham, . . .	June 29, 1893	-	-	-	Subject considered in 1894, but action postponed indefinitely. Investigating committee appointed in 1906.

Stoughton,	April 12, 1892	{ June 16, 1892 June 20, 1893 }	-	-	Schedule of gas and electric property filed by local company. Action of 1892 thought to be ineffective.
Swampscott,	-	-	-	-	Subject referred to special committee in 1899.
Taunton, ¹	Dec. 14, 1895	Nov. 2, 1896	-	-	Popular vote upon undertaking the electric lighting business, December, 1896. Yes, 1,952; no, 1,760; blanks, 701. Plant of local electric company taken in 1897, under decree of court. New works built in 1903; occupied in 1904.
Templeton,	March 10, 1906	May 14, 1906	-	-	Plant constructed and operation begun Jan. 24, 1907.
Wakefield,	July 9, 1891	Aug. 15, 1892	-	-	Combined gas and electric plant of local company taken in 1894, under decree of court.
Walpole,	-	-	-	-	Investigating committee appointed in 1901.
Waltham, ¹	Dec. 23, 1895	-	Dec. 28, 1896	-	Proposition tabled in city council, 1897.
Warren,	-	-	-	-	Proposition tabled June 3, 1899.
Wellesley,	March 7, 1892	June 8, 1892	-	-	
West Boylston,	Oct. 19, 1909	Dec. 20, 1909	-	-	First vote to acquire electric light plant adopted 64 to 3; second vote 71 to 2. Plant constructed and operation begun Aug. 8, 1910.
Westborough,	-	-	July 7, 1906	-	

¹ The votes stated were passed by the city council.

Tabular Statement showing Action about Municipal Gas or Electric Plants prior to Jan. 1, 1912 — Concluded.

Remarks.

cession of combined gas and electric plant of local company taken by town on June 1, 1899, at a cost of \$150,000.

investigating committee appointed in 1901.

proposition to construct an electric light plant defeated Oct. 31, 1904. Proposition to lease and maintain such a plant lost on same date.

subject indefinitely postponed March 4, 1899.

investigating committee appointed in 1906. Report in 1907, and two votes on municipal electric plant, resulting 40 yes, 74 no, and 29 yes and 42 no, respectively.

ote relative to acquiring an electric plant was 52 for and 91 against.

investigating committee appointed in 1892. In 1894 this committee discharged and further action refused. Proposition indefinitely postponed in 1895.

otes favorable to acquiring an electric plant were 183 to 5, and 109 to 21, respectively. Investigating committee relative to street lighting appointed March, 1910.

¹ The votes stated were passed by the city council.

Propositions Considered.

Boylston. — At a town meeting held on March 4, 1912, a ballot was taken upon a motion “that the town vote to construct and maintain within its limits a suitable plant for the distribution of electricity for furnishing light, heat and power for municipal purposes, and for furnishing light, heat and power for the use of its inhabitants, and that power or current be purchased by contract from any electric light, transmission or other company who are able to furnish such power or current at reasonable and satisfactory terms,” and 71 voted in the affirmative and 12 in the negative, and the motion was declared carried in the affirmative by a two-thirds vote. At a meeting held on June 24, 1912, a similar motion was offered and a ballot taken at which there were 77 votes in the affirmative and 13 votes in the negative, and the motion was declared carried by a two-thirds vote of the voters present and voting. At the same meeting the town appropriated not to exceed \$8,000 to “pay for the building and equipment of a plant for the distribution of electricity, light, heat and power for municipal use, and for furnishing light, heat and power for the use of its inhabitants;” and the town treasurer was authorized under the direction and with the approval of the selectmen to borrow the sum of \$8,000 and to give therefor sixteen notes of the town of \$500 each, under the serial system, one note to be payable each year. It was also voted that the committee on electric lighting be authorized to construct a plant for the distribution of electricity in accordance with the foregoing votes, and make and sign all contracts and do all necessary acts to supply light, heat and power for municipal use or for the use of the inhabitants of the town, or for both purposes, and serve until the next annual town meeting.

Fall River. — At a meeting of the board of aldermen held on Oct. 7, 1912, the following order was offered: “*Ordered*, that it is expedient for the city of Fall River to exercise the authority conferred upon cities by chapter 34 of the Revised Laws, and all acts in amendment thereof or in addition thereto, and by section 1 of said chapter, relative to the construction, purchasing or leasing and maintaining within the limits of the

city of Fall River of a plant for the manufacture or distribution of electricity for furnishing light for municipal use, and light, heat and power, except for the operation of electric cars, for the use of its inhabitants. And it is further *ordered*, that the city of Fall River be, and it is hereby authorized, in accordance with the provisions of said chapter and of all acts in amendment thereof or in addition thereto, to acquire, to construct, purchase or lease, and maintain within its limits one or more plants for the manufacture or distribution of electricity for furnishing light, heat or power as aforesaid." Objection arising to the passage of the order, action thereon was postponed as required by the charter. On Oct. 21, 1912, the order was again considered and adopted, there being 19 yeas and 7 nays. The order was approved Oct. 31, 1912.

Framingham. — At a town meeting held on March 19, 1912, a vote was taken on the following article in the warrant: "To see if the town will vote to exercise the authority to establish municipal electric lighting plants conferred upon towns by chapter 34 of the Revised Laws of the Commonwealth of Massachusetts and acts in amendment thereof, and vote to establish a municipal electric plant for furnishing electric light for municipal use, and electric light, electric heat and electric power for the use of the town's inhabitants, or pass any vote, and if any what action relative thereto." The vote on this question was taken by ballot by the Australian system. The total number of votes cast was 916, of which 403 were "yes," 510 "no," and 3 blank.

Georgetown. — At a special town meeting held Jan. 3, 1912, the committee appointed on March 6, 1911, made a partial report showing progress. A vote was then taken by ballot on the question: "Shall the town install a municipal lighting system by electricity, in accordance with provisions of chapter 34, section 3, of the Revised Laws, and amendments;" 132 voted in the affirmative and 7 in the negative. At the annual town meeting on March 4, 1912, a further report was made by the committee, a similar motion to the above was offered, and a ballot thereon was taken, which resulted in 102 yeas and 11 nays. At the same meeting it was voted "that for the purpose of carrying the vote just passed under article 10

of this warrant into effect, that the town treasurer and selectmen be and hereby are instructed to issue serial bonds for an amount not exceeding \$20,000, \$1,000 maturing annually." The motion was also offered and carried that "a committee be appointed who shall be given all the powers of the town to make contracts, to buy land, to erect buildings, to purchase and install a generating apparatus, to buy and erect a pole and wire equipment for street and commercial lighting, and to erect the same over private and public ways, and do all other acts necessary for the construction and operation of the lighting plant under consideration, including the right to purchase current from any generating plant outside of the town limit. All bills contracted by said committee shall be paid for by the treasurer of the town, after approval by the selectmen, but no action taken by said committee shall be binding upon the town until their investigation, and the plans which they have formulated have been submitted to the town for its consideration and approval, at an adjourned or regularly called town meeting, with the subject-matter in the warrant." On May 13, at an adjournment of the annual meeting, the committee reported recommending that the town establish only a distributing plant and purchase current from the Haverhill Electric Company, and the committee was authorized to construct a plant at a cost not to exceed \$20,000. By the close of the year the town had constructed and was operating a plant for the distribution of electricity, the Haverhill Electric Company beginning the supply of current for the plant on December 4.

Haverhill. — In the municipal council on Dec. 11, 1912, the following order was introduced: "That the city of Haverhill, in accordance with the provisions of the statutes of the Commonwealth of Massachusetts in such case made and provided, construct, purchase and maintain within its limits a plant for the manufacture and distribution of gas for furnishing light for municipal use, and for light, heat and power for the use of its inhabitants." This was placed on file for one week, and on Dec. 27, 1912, failed to pass, the yeas being 1 and nays 4.

Littleton. — At the annual meeting held March 25, 1912, it was voted "to authorize the electric light commissioners to execute a contract with the Lowell Electric Light Corporation,

Ayer Electric Light Company or any other corporation for the purpose of furnishing electricity for light, heat and power for the town and its inhabitants." Subsequently a contract was made with the Lowell Electric Light Corporation, and the plant began operations Sept. 15, 1912.

Newburyport. — On Jan. 1, 1912, it was ordered in the board of aldermen, the common council concurring, that "the city of Newburyport, in accordance with the provisions of chapter 34 of the Revised Laws of Massachusetts, and acts in addition and amendments thereto, be and hereby is authorized to construct or purchase and maintain within its limits a plant for the manufacture and distribution of gas for furnishing light for municipal use, and light, heat or power for the use of its inhabitants." Also that "the city of Newburyport, in accordance with the provisions of chapter 34 of the Revised Laws of Massachusetts, and acts in addition and amendments thereto, be and hereby is authorized to construct or purchase and maintain within its limits a plant for the manufacture of and distribution of electricity for furnishing light for municipal use, and light, heat or power for the use of the inhabitants." Also that "the city of Newburyport, in accordance with the provisions of chapter 34 of the Revised Laws of Massachusetts, and acts in addition and amendments thereto, construct or purchase and maintain within its limits a plant for the manufacture and distribution of electricity for furnishing light for municipal use, and for light, heat or power for the use of the inhabitants; and that the city of Newburyport, in accordance with the provisions of chapter 34 of the Revised Laws of Massachusetts, and acts in addition and amendments thereto, construct or purchase and maintain within its limits a plant for the manufacture and distribution of gas for furnishing light for municipal use, and light, heat or power for the use of the inhabitants." This was approved by the mayor on Jan. 9, 1912.

Princeton. — At a town meeting held on April 30, 1912, it was "voted not to install a system of electric lighting for furnishing light for municipal use or light, heat or power for the use of its inhabitants." The vote stood "yes, 55; no, 32." At a meeting on June 1, 1912, a similar motion was offered, and the vote was "yes, 72; no, 38." At a meeting held July 13, 1912, a motion was offered "that, in pursuance with section

1 of chapter 34 of the Revised Laws of Massachusetts, and any acts relative thereto, an electric system be established and built to furnish light, heat and power for the use of the inhabitants and municipal use in the town of Princeton, beginning at a point on the Hubbardston and Princeton town line near Roper's mill, to Princeton Depot by Dr. Stimson's, Pratt's corner, Gregory's corner, Russell's corner to a point on the Sterling and Princeton town line near Buck's mill, with branches as follows: Dr. Stimson's to Mt. Pleasant House, Pratt's corner to Thomas Allen's, Pratt's corner to J. B. Marcou, Gregory's corner to H. C. Delano's, the new road near the church to Walter Wiggin's, Gregory's corner to W. N. Boylston's, Kendall's corner to a point near W. H. Whitcomb's store, thence north to C. H. R. Rugg's and south to A. B. Key's place, J. V. Temple's corner to the Sterling and Princeton town line near Henry Keyes' place; and that the town borrow under the direction of the selectmen and treasurer \$15,000, issuing notes for the same, for the construction of the above system." The vote upon this motion taken by ballot with the use of a check list was 96 yeas and 9 nays. At a meeting on Sept. 4, 1912, a similar vote was taken and 88 voted in the affirmative and 18 in the negative. At the same meeting it was also voted "that the above sum be borrowed in fifteen one thousand dollar notes, and that one note be retired each year until the debt is cancelled." A municipal light board was chosen by ballot.

Rockland. — At a town meeting held on April 8, 1912, it was voted "that the town construct or purchase and maintain within its limits a plant for the manufacture or distribution of electricity for furnishing light for municipal use, light, heat or power, except for the operation of electric cars, for the use of its inhabitants, agreeably to the provisions of the laws of Massachusetts." There were 93 yeas and 35 nays.

Winthrop. — At a town meeting held March 11, 1912, a special committee was appointed to investigate the subject of gas and electric contracts as affecting municipal lighting and private takers, and also the advisability of municipal ownership of a gas and electric plant. In its report, dated June 1, 1912, this committee made the following recommendations: "1. That the town at this time should not purchase or acquire

the gas or electric light plant. 2. That the town enter into a new contract with the Gas and Electric Company upon the terms and conditions submitted and referred to in this report (being a contract for municipal lighting identical with the latest and most favorable contract offered by the Edison Company to the municipalities which it serves)." At a meeting on June 20, 1912, under the article in the warrant, "to hear the report of the committee heretofore appointed for the purpose of investigating the matter of municipal ownership of gas and electricity, and the question of contracts affecting public and private lighting, and to take any action in relation thereto," it was "*Voted*, that, the report of the committee be accepted and its recommendations adopted."

Operation of Municipal Plants.

Ashburnham. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$3,838 49
For interest on bonds, notes or scrip,	386 26
For depreciation fund (3 per cent. on \$12,919),	387 57
For note payments,	500 00
	<hr/>
Total,	\$5,112 32

Income: —

From private consumers,	\$4,557 61
From municipal buildings,	135 11
From appropriation for maintenance,	900 00
	<hr/>
	5,592 72

Excess of income and appropriation over expenditures,

\$480 40

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$3,913 22
For interest on bonds, notes or scrip,	365 00
For depreciation fund (3 per cent. on \$14,059.35),	421 78
For note payments,	500 00
	<hr/>
Total,	\$5,200 00

Income: —		
From private consumers, . . .	\$4,550 00	
From municipal buildings, . . .	150 00	
	<hr/>	\$4,700 00
Balance,		\$500 00
For new construction,		800 00
		<hr/>
		\$1,300 00

The following appropriations were voted March 4, 1912, for account of the electric light department: —

For note payment,	\$500 00
For construction,	950 00
	<hr/>
	\$1,450 00

At a town meeting held Aug. 14, 1912, the sum of \$2,500 was appropriated for the construction of a line to Naukeag Lake, and the money was provided by a five-year serial loan.

Belmont. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$18,708 66
For interest on bonds, notes or scrip,	630 00
For depreciation fund (3 per cent. on \$48,433.33),	1,453 00
For sinking fund requirements,	280 00
For note payments,	500 00
	<hr/>
Total,	\$21,571 66

Income: —	
From private consumers,	\$15,706 98
From municipal departments, etc.,	528 72
From appropriation for maintenance,	3,863 00
	<hr/>
	20,098 70

Apparent loss in operation as defined by statute, \$1,473 96

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$19,000 00
For interest on bonds, notes or scrip,	620 00
For depreciation fund (3 per cent. on \$51,464.23),	1,542 00

For sinking fund requirements,	\$280 00
For note payments,	500 00
For loss in preceding year,	1,472 96

Total,	<u>\$23,414 96</u>
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Income: —

From private consumers,	\$17,000 00
From municipal departments, etc.,	500 00
	<u>17,500 00</u>

Balance,	\$5,914 96
For new construction,	1,458 00
	<u>\$7,372 96</u>

The following appropriations were voted March 11, 1912, for account of the electric department:—

For maintenance,	\$1,000 00
For interest,	610 00
For depreciation,	1,458 00
For sinking fund requirements,	280 00
For note payment,	500 00
	<u>\$3,848 00</u>
For construction,	1,542 00
	<u>\$5,390 00</u>

Braintree. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows:—

Expenditures: —

For operation, maintenance and repairs,	\$19,905 40
For interest on bonds, notes or scrip,	660 00
For depreciation fund (3 per cent. on \$151,303.77),	4,539 11
For sinking fund requirements,	430 00
For note payments,	2,500 00
	<u>\$28,034 51</u>

Income: —

From private consumers,	\$26,200 00
From municipal buildings,	541 30
From appropriation for maintenance,	5,929 11
	<u>32,670 41</u>

Excess of income and appropriation over expenditures,	<u>\$4,635 90</u>
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The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows:—

Expenditures:—

For operation, maintenance and repairs,	\$20,000 00
For interest on bonds, notes or scrip,	760 00
For depreciation fund (3 per cent. on \$149,691.91),	4,490 75
For sinking fund requirements,	430 00
Total,	<u>\$25,680 75</u>

Income from private consumers,	<u>28,000 00</u>
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Balance, excess of income over expenses,	\$2,319 25
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At a town meeting held March 19, 1912, it was voted to “appropriate the income from consumers of electric light for operating expenses, repairs, renewals, connecting new consumers and for new construction.” It was also voted to appropriate the following sums, to be paid from such income, viz.: depreciation fund, \$4,490.75; interest on bonds, \$660; and sinking fund, \$430. It was also voted to appropriate the unexpended income of the preceding year, to wit, \$2,501.61, for new construction and connecting new consumers, and to appropriate \$5,832 to maintain 648 street lamps at \$9 per lamp for the ensuing year. At the same meeting the vote passed at the preceding annual meeting “to appropriate \$56,976.96 shown in the accounts of the electric light plant under the name of ‘overdraft for construction’ ” was rescinded, and it was “voted to appropriate \$50,252.59 as shown in the account called ‘overdraft for construction,’ and the sum of \$7,416.44, as shown in the account called ‘overdraft of cash,’ so that these accounts can be closed and credited to the account entitled ‘appropriations for construction.’ ”

Chicopee.—The result of the operation of the plant for the fiscal year ending Nov. 30, 1911, as stated by the manager, was as follows:—

Expenditures:—

For operation, maintenance and repairs,	\$46,055 69
For interest on bonds, notes or scrip,	3,477 50
For depreciation fund (3 per cent. on \$225,215),	6,756 45
For note payments,	1,000 00
For bond payments,	5,000 00
Total,	<u>\$62,289 64</u>

Income: —

From private consumers,	\$42,114 64	
From municipal buildings,	4,305 64	
From appropriation for maintenance, .	16,233 95	
	<hr/>	\$62,654 23

Excess of income and appropriation over expenditures,

\$364 59

The estimates submitted by the manager for the fiscal year beginning Dec. 1, 1911, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$46,000 00
For interest on bonds, notes or scrip,	7,077 50
For depreciation fund (3 per cent. on \$234,275), .	7,028 25
For note payments,	1,000 00
For bond payments,	7,000 00
For law suit,	3,112 01
	<hr/>
Total,	\$71,217 76

Income: —

From private consumers,	\$43,000 00	
From municipal buildings,	4,500 00	
	<hr/>	47,500 00
		<hr/>
Balance,	\$23,717 76	
For new construction,	3,152 23	
	<hr/>	\$26,869 99

At a regularly adjourned meeting of the board of aldermen held March 25, 1912, \$21,000 was appropriated for the electric light department. On Nov. 25, 1912, the further sum of \$5,024.73 was appropriated for operating expenses of the electric light department, and the city treasurer was authorized to borrow this sum and give the notes of the city therefor, payable on or before Nov. 5, 1913. On Nov. 25, 1912, the sum of \$2,000 from the appropriation for bond payments was transferred to the operating account of the electric light department. On Feb. 5, 1912, the sum of \$400 was appropriated for construction.

Concord. — The result of the operation of the plant for the fiscal year ending Jan. 31, 1912, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$29,458 69
For interest on bonds, notes or scrip,	5,135 00
For sinking fund requirements,	2,680 00
Total,	<u>\$37,273 69</u>

Income: —

From private consumers,	\$26,771 65
From pumping, jobbing, etc.,	6,349 15
From appropriation for maintenance,	5,000 00
	<u>38,120 80</u>

Excess of income and appropriation over expenditures,	\$847 11
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The estimates submitted by the manager for the fiscal year beginning Feb. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$27,025 00
For interest on bonds, notes or scrip,	5,135 00
For depreciation fund (3 per cent. on \$146,946.20),	4,408 39
For sinking fund requirements,	2,680 00
Total,	<u>\$39,248 39</u>

Income: —

From private consumers,	\$28,000 00
From pumping, jobbing, etc.,	3,000 00
	<u>31,000 00</u>
Balance,	\$8,248 39

At the annual town meeting held on April 1, 1912, the following votes were adopted: “*Voted*, that the treasurer pay over to the trustees of the town donations any premiums heretofore and hereafter received upon bonds or notes issued and sold to pay for construction or extension of the water works, sewerage system or municipal lighting plant of the town, less the cost of preparing, issuing, marketing such bonds or notes, such balance of premiums to be held, invested and applied to the payment of the principal of such bonds or notes respectively, as provided in chapter 379, Acts of 1910.”

" *Voted*, that the sum of \$5,000 be appropriated for street-lighting service and maintenance of fire-alarm service, and that said sum, together with the current income of the department and the unexpended balance of last year, be carried to and continued in the maintenance account of the municipal light department for the operation and maintenance of the plant, for the payment of interest on the municipal light loans and for the sinking fund of said loans."

" *Voted*, that the municipal light board be authorized and directed to make from time to time such transfers of funds from maintenance to construction account of the municipal light department as may be available and in the judgment of the board needful and proper."

" *Voted*, that the sum of \$500 be transferred from the account of fire department to maintenance account of the municipal light department to repay in part the cost of the reconstruction and renewal of the fire-alarm system last year."

" *Voted*, unanimously, that the treasurer, with the approval of the municipal light board, be and is hereby authorized to borrow a sum not exceeding \$8,000 to defray the cost of construction and extension of the municipal light plant in addition to the amounts already borrowed for such purposes; and to make and issue therefor serial bonds or notes of the town for \$500 each, signed by the treasurer and countersigned by the municipal light board, to bear interest payable semiannually at a rate not exceeding 4 per cent. per annum, and payable \$500 at the expiration of one year from the date of issue and a like sum at the end of each year thereafter, until all of said bonds or notes shall be paid."

Danvers. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$24,676 24
For interest on bonds, notes or scrip,	3,676 00
For depreciation fund (3 per cent. on \$129,487.17),	3,884 62
For sinking fund requirements,	4,000 00
Total,	<hr/> \$36,236 86

Income: —

From private consumers,	\$31,657 62	
From municipal buildings,	466 90	
From appropriation for maintenance,	10,050 00	
	<hr/>	\$42,174 52

Excess of income and appropriation over expenditures,

\$5,937 66

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$27,609 00
For interest on bonds, notes or scrip,	3,716 00
For depreciation fund (3 per cent. on \$134,419.10),	4,032 57
For sinking fund requirements,	4,000 00
	<hr/>
Total,	\$39,357 57

Income: —

From private consumers,	\$29,652 57	
From municipal buildings,	475 00	
	<hr/>	30,127 57
		<hr/>
Balance,		\$9,230 00
For new construction,		4,000 00
		<hr/>
		\$13,230 00

At the annual town meeting held March 4 and 5, 1912, the sum of \$9,230 was appropriated to maintain 68 arc lights at \$45 per light and 617 tungsten incandescent lights at \$10 per light. The meeting also appropriated \$227 to install 6 tungsten lights, and \$4,000 for electric loan sinking fund, the same to be paid for from the earnings of the electric department. The sum of \$4,000 was also appropriated for new construction, and a five-year loan was authorized to provide therefor. It was further "voted for the overdraft in construction, \$9,489.08; that the balance, \$7,703.19, in maintenance be transferred to the construction account, leaving a balance of \$1,785.89 to be paid from the earnings of 1912."

Groton. — The result of the operation of the plant for the fiscal year ending March 31, 1912, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$2,997 27
For interest on bonds, notes or scrip,	604 89
For depreciation fund (3 per cent. on \$20,190.60),	605 72
For note payments,	3,500 00
Total,	<u>\$7,707 88</u>

Income: —

From private consumers,	\$1,824 46
From appropriation for maintenance,	4,885 61
	<u>6,710 07</u>

Apparent loss in operation as defined by statute, \$997 81

The estimates submitted by the manager for the fiscal year beginning April 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$3,200 00
For interest on bonds, notes or scrip,	469 26
For depreciation fund (3 per cent. on \$21,131),	633 93
For note payments,	2,360 00
For loss in preceding year as defined by statute,	1,000 00
Total,	<u>\$7,663 19</u>

Income from private consumers,	2,000 00
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Balance,	\$5,663 19
For new construction,	400 00
	<u>\$6,063 19</u>

At the annual town meeting held April 1, 1912, the following appropriations were voted: —

For maintenance, the income of the plant and	\$1,200 00
For interest,	469 26
For depreciation,	633 93
For note payments,	2,360 00
	<u>\$4,663 19</u>
For construction,	2,200 00
	<u>\$6,863 19</u>

Groveland. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$3,932 80
For interest on bonds, notes or scrip,	607 50
For depreciation fund (3 per cent. on \$15,000),	450 00
For note payments,	500 00
<hr/>	
Total,	\$5,490 30

Income: —

From private consumers,	\$2,336 80
From municipal buildings,	104 62
From miscellaneous receipts,	190 37
From appropriation for maintenance,	2,950 00
<hr/>	
	5,581 79

Excess of income and appropriation over expenditures,	\$91 49
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The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$3,690 00
For interest on bonds, notes or scrip,	585 00
For depreciation fund (3 per cent. on \$15,000),	450 00
For note payments,	500 00
<hr/>	
Total,	\$5,225 00
Income from private consumers,	2,550 00
<hr/>	
Balance,	\$2,675 00
For new construction,	75 00
<hr/>	
	\$2,750 00

At the annual town meeting held March 18, 1912, the following sums were appropriated for municipal lighting: —

For maintenance,	\$2,225 00
For depreciation,	450 00
<hr/>	
	\$2,675 00
For construction,	350 00
<hr/>	
	\$3,025 00

Hingham. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$17,573 67
For interest on bonds, notes or scrip,	500 00
For depreciation fund (3 per cent. on \$49,878.73),	1,500 00
For note payments,	4,000 00
Total,	<u>\$23,573 67</u>

Income: —

From private consumers,	\$17,227 63
From jobbing, sales, etc.,	1,501 14
From appropriation for maintenance,	7,670 00
	<u>26,398 77</u>

Excess of income and appropriation over expenditures,	<u>\$2,825 10</u>
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The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$18,000 00
For interest on bonds, notes or scrip,	350 00
For depreciation fund (3 per cent. on \$50,936.71),	1,528 10
For note payments,	4,000 00
Total,	<u>\$23,878 10</u>

Income from private consumers,	<u>17,750 00</u>
Balance,	\$6,128 10

At a town meeting held on March 4, 1912, the sum of \$350 was appropriated for interest and \$1,000 for construction and maintenance of certain street lamps. It was also voted "that the sum of \$1,528.10, to be raised and appropriated for the depreciation fund, and that the unexpended balance of 1911, exclusive of the \$29.38 remaining in the depreciation fund, amounting to \$7,791.81, be reappropriated as follows: for depreciation fund, \$1,000; for such construction as may be necessary for wiring up new customers, meters, etc., \$1,400; for grounding secondary wires, \$1,300; for new poles on Rockland Street, \$275; and the balance, and so much of the income derived from current and jobbing as may be necessary, be placed at the disposal of the municipal light board."

Holyoke. — The result of the operation of the plant for the fiscal year ending Nov. 30, 1911, as stated by the manager, was as follows: —

Expenditures: —			
For operation, maintenance and repairs,	.	.	\$278,102 70
For interest on bonds, notes or scrip,	.	.	34,600 35
For depreciation fund,	.	.	53,619 00
For bond payments,	.	.	44,100 00
			<hr/>
Total,	.	.	\$410,422 05
Income: —			
From private consumers,	.	.	\$412,259 18
From municipal buildings, etc.,	.	.	24,342 60
			<hr/>
			436,601 78
			<hr/>
Excess of income over expenditures,	.	.	\$26,179 73

The estimates submitted by the manager for the fiscal year beginning Dec. 1, 1911, were as follows: —

Expenditures: —			
For operation, maintenance and repairs,	.	.	\$319,276 50
For interest on bonds, notes or scrip,	.	.	33,149 50
For depreciation fund,	.	.	55,474 00
For bond payments,	.	.	44,100 00
			<hr/>
Total,	.	.	\$452,000 00
Income: —			
From private consumers,	.	.	\$427,000 00
From municipal buildings,	.	.	25,000 00
			<hr/>
			\$452,000 00

By an order approved Feb. 21, 1912, the sum of \$27,242.83 was transferred from the gas and electric light plant depreciation fund to gas and electric department renewals and extensions. By an order approved Feb. 21, 1912, the sum of \$150,000 was appropriated for extending and enlarging the gas and electric light plant, of which \$10,000 was charged to gas and electric plant depreciation fund and a thirty-year loan was authorized to provide for the balance thereof. By an order approved March 20, 1912, there was "appropriated from the receipts of the gas and electric department the sums of \$55,474,

\$33,149.50, \$44,100, to meet the depreciation, interest and bond payments, respectively, for said department, the remainder of said receipts to be appropriated to said department to be used for the operation of said plant, as provided by chapter 410 of the Acts of 1905 and chapter 411 of the Acts of 1906." By an order approved June 4, 1912, a transfer from the receipts of the gas and electric department of \$2,255.56 to the account of interest was made, to meet the first six months' interest on the bonds authorized Feb. 21, 1912.

Hudson. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$16,084 29
For interest on bonds, notes or scrip,	1,247 88
For depreciation fund (3 per cent. on \$84,457.50),	2,533 73
For note payments,	3,000 00
<hr/>	
Total,	\$22,865 90
Income: —	
From private consumers,	\$21,462 60
From jobbing,	122 30
<hr/>	
	21,584 90
<hr/>	
Apparent loss in operation as defined by statute,	\$1,281 00

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$16,725 93
For interest on bonds, notes or scrip,	1,175 17
For depreciation fund (3 per cent. on \$86,630.16),	2,598 90
For note payments,	3,000 00
<hr/>	
Total,	\$23,500 00
Income from private consumers and municipal pump-	
ing,	20,000 00
<hr/>	
Balance,	\$3,500 00

At the annual town meeting held March 4, 1912, the following appropriation was voted: —

For construction,	\$462 50
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And at a meeting held April 2, 1912, it was voted to borrow \$2,000 for the purpose of installing lights in the town of Stow, under chapter 143, Acts of 1898, and chapter 34, Revised Laws; also to establish and maintain two lights on Cox Street, Hudson, and raise and appropriate \$58 therefor.

Hull. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$31,610 51
For interest on bonds, notes or scrip,	4,589 16
For depreciation fund (3 per cent. on \$184,808.41),	5,544 25
For sinking fund requirements,	1,911 24
For note payments,	1,000 00
For loss in preceding year,	4,454 79
	<hr/>
Total,	\$49,109 95
Income: —	
From private consumers,	\$36,729 17
From appropriation for maintenance,	9,411 24
	<hr/>
	46,140 41
	<hr/>
Apparent loss in operation as defined by statute,	\$2,969 54

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$31,582 67
For interest on bonds, notes or scrip,	2,984 74
For depreciation fund (3 per cent. on \$193,476.39),	5,804 29
For sinking fund requirements,	970 00
For note payments,	1,000 00
For loss in preceding year,	2,969 54
	<hr/>
Total,	\$45,311 24
Income from private consumers,	40,000 00
	<hr/>
Balance,	\$5,311 24
For new construction,	2,600 00
	<hr/>
	\$7,911 24

At a meeting held March 4, 1912, it was “voted to appropriate for the electric light department depreciation fund,

\$5,804.29; new construction, \$1,136.95; also the earnings of the plant and the sum of \$1,450 of said earnings to be used for new construction."

Ipswich. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs, . . .	\$11,879 25
For interest on bonds, notes or scrip, . . .	2,520 00
For depreciation fund (3 per cent. on \$52,271), . .	1,568 12
For note payments,	1,750 00
<hr/>	
Total,	\$17,717 37

Income: —

From private consumers,	\$10,160 12
From sale of power and jobbing,	2,620 27
From appropriation for maintenance,	7,250 21
<hr/>	
	20,030 60

Excess of income and appropriation over expenditures,

\$2,313 23

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$13,659 00
For interest on bonds, notes or scrip,	2,530 00
For depreciation fund (3 per cent. on \$68,000), . .	2,040 00
For note payments,	1,750 00
<hr/>	
Total,	\$19,979 00

Income: —

From private consumers,	\$10,000 00
From sale of power, etc.,	2,159 00
<hr/>	
	12,159 00

Balance,	\$7,820 00
For new construction,	2,000 00
<hr/>	
	\$9,820 00

At the annual town meeting held March 4 and by adjournments March 5, 19 and April 5, 1912, the following items were appropriated: —

For maintenance,	.	.	.	.	.	.	\$1,500 00
For interest, .	.	.	.	.	.	.	2,530 00
For depreciation, .	.	.	.	.	.	.	2,040 00
For note payments, .	.	.	.	.	.	.	1,750 00
For construction, .	.	.	.	.	.	.	2,000 00
							<hr/>
							\$9,820 00

Mansfield. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	.	.	.	\$18,924 54
For interest on bonds, notes or scrip, .	.	.	.	3,020 00
For depreciation fund, .	.	.	.	2,600 00
For sinking fund requirements, .	.	.	.	1,000 00
For bond payments, .	.	.	.	1,000 00
				<hr/>
Total, .	.	.	.	\$26,544 54

Income: —

From private consumers, .	.	.	\$18,376 14
From municipal buildings, .	.	.	786 64
From appropriation for maintenance, .	.	.	7,620 00
			<hr/>
			26,782 78

Excess of income and appropriation over expenditures, .

\$238 24

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs, .	.	.	\$19,000 00
For interest on bonds, notes or scrip, .	.	.	3,866 67
For depreciation fund (3 per cent. on \$106,942.82),	.	.	3,210 00
For sinking fund requirements, .	.	.	1,000 00
For bond payments (\$2,000 less bond premium \$533.25), .	.	.	1,466 75
			<hr/>

Total, . \$28,543 42

Income from private consumers, . 20,000 00

Balance, . \$8,543 42

At the annual town meeting held March 4, 1912, there was "voted for the municipal lighting plant the receipts of the plant;" \$400 was also appropriated for the extensions of street lighting.

Marblehead. — The result of the operation of the plant for the fiscal year ending Jan. 31, 1912, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$32,359 62
For interest on bonds, notes or scrip,	3,253 33
For depreciation fund (3 per cent. on \$136,950.33),	4,108 51
For sinking fund requirements,	1,000 00
For bond payments,	3,000 00
	<hr/>
Total,	\$43,721 46

Income: —

From private consumers,	\$33,320 39
From municipal buildings,	1,681 58
From appropriation for maintenance,	10,894 70
	<hr/>
	45,896 67

Excess of income and appropriation over expenditures,

\$2,175 21

The estimates submitted by the manager for the fiscal year beginning Feb. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$34,800 00
For interest on bonds, notes or scrip,	3,133 33
For depreciation fund (3 per cent. on \$182,156.66),	5,464 70
For sinking fund requirements,	1,000 00
For bond payments,	3,000 00
	<hr/>
	\$47,398 03

Income: —

From private consumers,	\$33,000 00
From municipal buildings,	1,800 00
	<hr/>
	34,800 00

For new construction,	2,500 00
	<hr/>
	\$15,098 03

At the annual town meeting held March 11, 1912, the following appropriations were voted: —

For interest,	\$3,133 33
For depreciation,	5,464 70
For sinking funds,	1,000 00
For bond payments,	3,000 00
	<hr/>
	\$12,598 03
For construction,	2,500 00
	<hr/>
	\$15,098 03

Merrimac. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$6,545 76
For interest on bonds, notes or scrip,	524 00
For depreciation fund (3 per cent. on \$25,133.92),	754 02
For note payments,	600 00
For bond payments,	500 00
For loss in preceding year,	312 43
	<hr/>
Total,	\$9,236 21

Income: —

From private consumers,	\$7,442 00
From appropriation for maintenance,	1,835 82
	<hr/>
	9,277 82

Excess of income and appropriation over expenditures,

\$41 61

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$6,110 00
For interest on bonds, notes or scrip,	458 00
For depreciation fund (3 per cent. on \$25,529.93),	765 89
For note payments,	600 00
For bond payments,	500 00

Total,	\$8,433 89
Income from private consumers,	7,250 00

Balance,	\$1,183 89
For new construction,	350 00
	<hr/>
	\$1,533 89

At the annual town meeting held March 4, 1912, the following appropriations were made for the municipal light department, viz.: for maintenance, \$1,183.89; construction, \$350; extensions of distribution system, \$780.42. At a meeting held on Sept. 16, 1912, the sum of \$75 was appropriated for a further extension of the distribution system. At this same meeting the municipal light board was authorized to make a contract with the Amesbury Electric Light Company for a supply of electricity for the period of ten years.

Middleborough. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$19,506 89
For interest on bonds, notes or scrip,	2,708 00
For depreciation fund (4 per cent. on \$140,929.58),	5,637 10
For bond payments,	3,000 00
Total,	\$30,851 99

Income: —

From private consumers,	\$24,012 94
From appropriation for maintenance,	9,800 00
	33,812 94

Excess of income and appropriation over expenditures,	\$2,960 95
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The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$19,450 00
For interest on bonds, notes or scrip,	2,588 00
For depreciation fund (4 per cent. on \$140,927.58),	5,637 10
For bond payments,	3,000 00
Total,	\$30,675 10

Income from private consumers,	24,000 10
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Balance,	\$6,675 00
For new construction,	5,000 00
	\$11,675 00

At the annual meeting held March 4, 1912, the sum of \$7,125 was appropriated to cover the excess of the expense of the plant,

as defined by law, over the estimated income therefrom. It was also voted "that a sufficient amount from depreciation for the Middleborough Gas and Electric Plant be expended for extending the electric lighting system to the Rock Village, the extension being made in the year 1912." At the adjourned annual town meeting held April 2, 1912, the sum of \$4,925 was appropriated for the extension of gas mains.

Millers Falls. — The result of the operation of the plant for the fiscal year ending April 22, 1912, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$2,103 24
For interest on bonds, notes or scrip,	600 00
For depreciation fund (3 per cent. on \$15,411.66), .	462 35
For sinking fund requirements,	300 00
	<hr/>
Total,	\$3,465 59

Income: —

From private consumers,	\$3,214 62
From rebates on account of current purchased, etc.,	320 00
From appropriation for maintenance,	962 35
	<hr/>
	4,496 97

Excess of income and appropriation over expenditures,	\$1,031 38
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The estimates submitted by the manager for the fiscal year beginning April 23, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$2,150 00
For interest on bonds, notes or scrip,	600 00
For depreciation fund (3 per cent. on \$13,852.98), .	415 59
For sinking fund requirements,	300 00
For loss in preceding year,	484 82
	<hr/>
Total,	\$3,950 41

Income: —

From private consumers,	\$3,214 82
From rebate on account of current purchased,	295 00
From rent,	25 00
	<hr/>
	3,534 82
	<hr/>
Balance,	\$415 59

At the annual meeting of the Millers Falls Water Supply District, held May 6, 1912, the following appropriations for the electric light department were made, viz.: —

For maintenance,	.	.	.	.	.	.	.	\$2,684 41
For interest,	.	.	.	.	.	.	.	600 00
For depreciation fund,	.	.	.	.	.	.	.	415 59
For sinking fund,	.	.	.	.	.	.	.	300 00
								<hr/>
								\$4,000 00

North Attleborough. — The result of the operation of the plant for the fiscal year ending Jan. 31, 1912, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	.	.	.	.	.	.	.	\$22,159 25
For interest on bonds, notes or scrip,	.	.	.	.	.	.	.	3,376 76
For depreciation fund (3 per cent. on \$149,773.30),	.	.	.	.	.	.	.	4,493 20
For sinking fund requirements,	.	.	.	.	.	.	.	1,500 00
For note payments,	.	.	.	.	.	.	.	2,695 00
								<hr/>
Total,	.	.	.	.	.	.	.	\$34,224 21

Income: —

From private consumers,	.	.	.	.	.	.	.	\$28,692 77
From appropriation for maintenance,	.	.	.	.	.	.	.	6,860 95
								<hr/>
								35,553 72

Excess of income and appropriation over expenditures,

\$1,329 51

The estimates submitted by the manager for the fiscal year beginning Feb. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	.	.	.	.	.	.	.	\$29,880 00
For interest on bonds, notes or scrip,	.	.	.	.	.	.	.	3,272 44
For depreciation fund (3 per cent. on \$152,706.27),	.	.	.	.	.	.	.	4,581 18
For sinking fund requirements,	.	.	.	.	.	.	.	1,500 00
For note payments,	.	.	.	.	.	.	.	2,695 00
								<hr/>

Total, \$41,928 62

Income from private consumers, 31,333 16

Balance, \$10,595 56

At the annual town meeting held March 18, 1912, the town appropriated for depreciation fund the sum of \$4,581.18, and for the maintenance of the electric department the receipts of the department, the unexpended balance of Jan. 1, 1912, amounting to \$8,778.61, and the sum of \$115. It was further voted "that the town appropriate for renewals, in excess of ordinary repairs, extensions, reconstruction, enlargements and additions of the electric light plant that may be required, the 3 per cent. depreciation fund to be raised in 1912, amounting to \$4,581.18, and the unexpended balance Jan. 31, 1912, of \$5,201.21."

Norwood. — The result of the operation of the plant for the fiscal year ending Jan. 31, 1912, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$25,590 22
For interest on bonds, notes or scrip,	1,893 33
For depreciation fund (3 per cent. on \$79,643.63),	2,539 31
For note payments,	4,000 00
Total,	<u>\$34,022 86</u>

Income: —

From private consumers,	\$34,968 22
From appropriation for maintenance,	1,500 00
	<u>36,468 22</u>
Excess of income and appropriation over expenditures,	\$2,445 36

The estimates submitted by the manager for the fiscal year beginning Feb. 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$32,600 00
For interest on bonds, notes or scrip,	1,785 00
For depreciation fund (5 per cent. on \$77,195.80),	3,859 74
For note payments,	4,000 00
Total,	<u>\$42,244 74</u>

Income from private consumers,	37,299 38
Balance,	<u>\$4,945 36</u>
For new construction,	2,500 00
	<u>\$7,445 36</u>

At the adjourned annual town meeting held April 2, 1912, the sum of \$12,594.74 was appropriated for the municipal light department, of which \$2,500 was to be raised by taxation and the balance to be taken from the earnings of the current year and from the balance of the preceding year for the following appropriations, viz.: —

For interest,	\$1,785 00
For depreciation fund,	3,859 74
For salaries,	450 00
For interest payment,	4,000 00
For permanent construction,	2,500 00
	<hr/>
	\$12,594 74

Peabody. — The result of the operation of the plant for the fiscal year ending Jan. 15, 1912, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$42,143 17
For interest on bonds, notes or scrip,	3,450 00
For depreciation fund (3 per cent. on \$187,190),	5,615 70
For sinking fund requirements,	800 00
For bond payments,	2,000 00
	<hr/>
Total,	\$54,008 87

Income: —

From private consumers,	\$41,287 87
From municipal buildings,	3,641 07
From appropriation for maintenance,	11,765 70
	<hr/>
	56,694 64

Excess of income and appropriation over expenditures,

\$2,685 77

The estimates submitted by the manager for the fiscal year beginning Jan. 16, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$46,000 00
For interest on bonds, notes or scrip,	3,380 00
For depreciation fund (3 per cent. on \$209,550),	6,286 50
For sinking fund requirements,	800 00
For bond payments,	2,000 00
	<hr/>
Total,	\$58,466 50

Income: —

From private consumers,	\$42,500 00	
From municipal buildings,	3,500 00	
	<hr/>	\$46,000 00
Balance,		\$12,466 50
For new construction,		2,000 00
		<hr/>
		\$14,466 50

The following appropriations were voted at an adjourned meeting subsequent to March 20, 1912: —

For interest,	\$3,280 00
For depreciation fund,	6,286 50
For sinking fund,	800 00
For bond payment,	2,000 00
For construction,	2,000 00
	<hr/>
	\$14,366 50

Reading. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$25,173 86
For interest on bonds, notes or scrip,	2,775 64
For depreciation fund (3 per cent. on \$135,992.62),	4,079 78
For note payments,	1,500 00
For bond payments,	3,000 00
For loss in preceding year,	66 02
	<hr/>
Total,	\$36,595 30

Income: —

From private consumers,	\$31,317 40	
From jobbing, rentals and interest,	410 77	
From appropriation for maintenance,	5,800 00	
	<hr/>	37,528 17

Excess of income and appropriation over expenditures,

\$932 87

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$26,500 00
For interest on bonds, notes or scrip,	3,070 00
For depreciation fund (3 per cent. on \$138,126.68),	4,143 80
For note payments,	2,200 00
For bond payments,	5,000 00
<hr/>	
Total,	\$40,913 80
Income from private consumers,	33,913 80
<hr/>	
Balance,	\$7,000 00
For new construction,	4,000 00
<hr/>	
	\$11,000 00

At the annual town meeting held March 4, 1912, it was voted "to raise and appropriate \$5,000, and that this amount, together with \$97.52 of the unexpended balance Dec. 31, 1911, and the receipts of the plant for the current year, be appropriated for the maintenance, operation and repair of said plant, and for the payment of bonds, notes and interest; and that \$4,143.80 be appropriated from the receipts of the plant for depreciation of said plant, and that the further sum of \$4,000 be raised and appropriated for new construction." At the same meeting the sum of \$1,500 and the unexpended balance of Dec. 31, 1911, of \$31.18 were appropriated for the installation of additional street lights.

Rowley. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$1,827 33
For interest on bonds, notes or scrip,	509 97
For depreciation fund (3 per cent. on \$12,000),	360 00
For note payments,	400 00
<hr/>	
Total,	\$3,097 30
Income: —	
From private consumers,	\$1,283 78
From appropriation for maintenance,	1,300 00
<hr/>	
	2,583 78
<hr/>	
Apparent loss in operation as defined by statute,	\$513 52

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows:—

Expenditures:—	
For operation, maintenance and repairs,	\$1,850 00
For interest on bonds, notes or scrip,	572 00
For depreciation fund (3 per cent. on \$15,000),	450 00
For note payments,	1,080 00
For loss in preceding year,	613 52
<hr/>	
Total,	\$4,565 52
Income from private consumers,	1,500 00
<hr/>	
Balance,	\$3,065 52

At the annual town meeting held March 11, 1912, the sum of \$3,313.22 was appropriated for the municipal light department, and at the same meeting the town appropriated the depreciation fund, amounting to \$450, and the additional sum of \$200 for extension of the electric lighting system. At the town meeting held Aug. 7, 1912, it was voted to appropriate the sum of \$3,000 to complete the extension of the electric lighting system from the "turnpike to the Willwood district, and to incur a debt therefor to be paid in one year."

Shrewsbury.—The result of the operation of the plant for the fiscal year ending Jan. 31, 1912, as stated by the manager, was as follows:—

Expenditures:—	
For operation, maintenance and repairs,	\$5,461 29
For interest on bonds, notes or scrip,	933 31
For depreciation fund (3 per cent. on \$31,445.79),	950 00
For note payments,	1,500 00
<hr/>	
Total,	\$8,844 60
 Income:—	
From private consumers,	\$5,176 20
From municipal buildings,	300 15
From appropriation for maintenance,	5,000 00
<hr/>	
	10,476 35
<hr/>	
Excess of income and appropriation over expenditures,	\$1,631 75

The estimates submitted by the manager for the fiscal year beginning Feb. 1, 1912, were as follows:—

Expenditures: —	
For operation, maintenance and repairs,	\$6,398 04
For interest on bonds, notes or scrip,	1,110 18
For depreciation fund (3 per cent. on \$33,059.51),	991 78
For note payments,	1,500 00
Total,	<u>\$10,000 00</u>

Income: —	
From private consumers,	\$4,760 00
From municipal buildings,	240 00
	<u>5,000 00</u>
Balance,	\$5,000 00
For new construction,	1,200 00
	<u>\$6,200 00</u>

At the annual town meeting held March 4, 1912, the following sums were voted for the municipal light department for the current year: —

For operations and maintenance,	\$2,258 04
For interest,	1,110 18
For depreciation fund,	991 78
For note payments,	1,500 00
For construction,	4,299 00
	<u>\$10,159 00</u>

Taunton. — The result of the operation of the plant for the fiscal year ending Nov. 30, 1911, as stated by the manager, was as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$52,473 39
For interest on bonds, notes or scrip,	13,696 25
For depreciation fund (3 per cent. on \$364,401.75),	10,932 05
For sinking fund requirements,	7,500 00
For bond payments,	1,500 00
Total,	<u>\$86,101 69</u>

Income: —	
From private consumers,	\$81,067 82
From jobbing, etc.,	2,043 01
From appropriation for maintenance,	14,361 25
	<u>97,472 08</u>
Excess of income and appropriation over expenditures,	\$11,370 39

The estimates submitted by the manager for the fiscal year beginning Dec. 1, 1911, were as follows:—

Expenditures:—	
For operation, maintenance and repairs,	\$51,000 00
For interest on bonds, notes or scrip,	13,670 00
For depreciation fund (3 per cent. on \$364,401.75),	10,932 05
For sinking fund requirements,	7,500 00
<hr/>	
Total,	\$83,102 05
Income from private consumers,	
	80,000 00
<hr/>	
Balance,	\$3,102 05

By a resolution of appropriations approved Dec. 6, 1911, the municipal council appropriated for the maintenance of the municipal lighting department the receipts of its department. By an order approved April 4, 1912, the municipal council transferred the sum of \$12,000 from the municipal light department depreciation fund to the municipal light construction fund. By an order of the municipal council approved Aug. 8, 1912, the sum of \$11,064.55 was transferred from the municipal light maintenance account to the municipal light depreciation account.

Templeton.—The result of the operation of the plant for the fiscal year ending Jan. 31, 1912, as stated by the manager, was as follows:—

Expenditures:—	
For operation, maintenance and repairs,	\$4,474 24
For interest on bonds, notes or scrip,	762 05
For depreciation fund (3 per cent. on \$28,364.06),	850 92
For note payments,	716 67
<hr/>	
Total,	\$6,803 88
Income:—	
From private consumers,	\$5,400 54
From rents,	12 00
From appropriation for maintenance,	1,829 64
<hr/>	
	7,242 18
<hr/>	
Excess of income and appropriation over expenditures,	\$438 30

The estimates submitted by the manager for the fiscal year beginning Feb. 1, 1912, were as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$4,778 61
For interest on bonds, notes or scrip,	733 39
For depreciation fund (3 per cent. on \$27,826.21),	834 78
For note payments,	716 67
<hr/>	
Total,	\$7,063 45
Income: —	
From private consumers,	\$5,500 00
From rent,	12 00
<hr/>	
	5,512 00
<hr/>	
Balance,	\$1,551 45
For new construction,	500 00
<hr/>	
	\$2,051 45

At the annual town meeting held March 4, 1912, the following appropriations were voted: —

For depreciation fund,	\$834 78
For note payments,	716 67
For construction,	1,925 00
<hr/>	
	\$3,476 45

Wakefield. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$59,465 12
For interest on bonds, notes or scrip,	5,466 25
For depreciation fund (3 per cent. on \$226,020.42),	6,780 61
For note payments,	1,000 00
For bond payments,	9,500 00
For loss in preceding year,	528 38
<hr/>	
Total,	\$82,740 36
Income: —	
From private consumers,	\$59,192 87
From jobbing,	10,656 04
From appropriation for maintenance,	12,240 00
<hr/>	
	82,088 91
<hr/>	
Apparent loss in operation as defined by statute,	\$651 45

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows:—

Expenditures: —	
For operation, maintenance and repairs,	\$59,050 89
For interest on bonds, notes or scrip,	5,063 75
For depreciation fund (3 per cent. on \$257,797.18),	7,733 91
For bond payments,	9,500 00
For loss in preceding year,	651 45
<hr/>	
Total,	\$82,000 00
Income: —	
From private consumers,	\$54,000 00
From jobbing,	13,000 00
<hr/>	
	67,000 00
<hr/>	
Balance,	\$15,000 00

At a town meeting held March 18, 1912, the sum of \$15,000, together with the receipts, was appropriated for the municipal light plant. At a meeting held Nov. 11, 1912, the town appropriated \$1,200 to be added to the depreciation fund of the municipal light plant, and the further sum of \$293 for extensions of the street lighting systems.

Wellesley. — The result of the operation of the plant for the fiscal year ending Dec. 31, 1911, as stated by the manager, was as follows:—

Expenditures: —	
For operation, maintenance and repairs,	\$23,271 81
For interest on bonds, notes or scrip,	726 66
For depreciation fund (3 per cent. on \$80,000),	2,400 00
For bond payments,	4,000 00
<hr/>	
Total,	\$30,398 47
Income: —	
From private consumers,	\$27,573 65
From municipal buildings,	608 34
From appropriation for maintenance,	4,000 00
<hr/>	
	32,181 99
<hr/>	
Excess of income and appropriation over expenditures,	\$1,783 52

The estimates submitted by the manager for the fiscal year beginning Jan. 1, 1912, were as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$25,000 00
For interest on bonds, notes or scrip,	566 67
For depreciation fund (3 per cent. on \$80,569.19),	2,417 00
For bond payments,	4,000 00
<hr/>	
Total,	\$31,983 67
 Income: —	
From private consumers,	\$28,000 00
From municipal buildings,	600 00
<hr/>	
	28,600 00
<hr/>	
Balance,	\$3,383 67

At a town meeting held Jan. 8, 1912, it was voted to continue the unexpended balance of the preceding year for electric light. No other appropriations appear to have been made for the maintenance, operation or extension of the electric light system.

West Boylston. — The result of the operation of the plant for the fiscal year ending Feb. 29, 1912, as stated by the manager, was as follows: —

Expenditures: —	
For operation, maintenance and repairs,	\$1,979 41
For interest on bonds, notes or scrip,	540 00
For depreciation fund (3 per cent. on \$16,039.95),	481 17
For note payments,	1,000 00
<hr/>	
Total,	\$4,000 58
 Income: —	
From private consumers,	\$1,316 41
From appropriation for maintenance,	2,521 17
<hr/>	
	3,837 58
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Excess of income and appropriation over expenditures,	\$163 00

The estimates submitted by the manager for the fiscal year beginning March 1, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$2,150 00
For interest on bonds, notes or scrip,	500 00
For depreciation fund (3 per cent. on \$19,297.53),	578 93
For note payments,	1,000 00
For loss in preceding year,	163 00

Total, \$4,391 93

Income from private consumers, 1,400 00

Balance, \$2,991 93

For new construction, 2,000 00

\$4,991 93

At the annual town meeting held March 25, 1912, the following appropriations were voted: —

For operations and maintenance,	\$750 00
For interest,	500 00
For depreciation fund,	578 93
For note payments,	1,000 00
For construction,	2,000 00

\$4,828 93

Westfield. — The result of the operation of the plant for the fiscal year ending Jan. 20, 1912, as stated by the manager, was as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$67,705 05
For interest on bonds, notes or scrip,	5,066 12
For depreciation fund (3 per cent. on \$293,264.66),	8,797 94
For bond payments,	7,000 00

Total, \$88,569 11

Income: —

From private consumers,	\$88,435 44
From accrued interest and premiums,	2,571 23
From appropriation for maintenance,	10,000 00
	<hr/>
	101,006 67

Excess of income and appropriation over expenditures, \$12,437 56

The estimates submitted by the manager for the fiscal year beginning Jan. 21, 1912, were as follows: —

Expenditures: —

For operation, maintenance and repairs,	\$70,000 00
For interest on bonds, notes or scrip,	5,170 00
For depreciation fund (3 per cent. on \$331,089.45),	9,932 68
For bond payments,	8,000 00

Total,	\$93,102 68
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Income from private consumers,	90,000 00
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Balance,	\$3,102 68
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At the adjourned annual town meeting held April 1, 1912, the town appropriated the sum of \$9,000 for putting certain of its wires underground, to be taken from its depreciation fund, and to transfer its operation fund as of Jan. 20, 1912, to its depreciation fund. At the same meeting the following appropriations were made from the income of the plant, viz.: —

For construction,	\$9,334 88
For maintenance,	70,000 00
For bond payments,	6,457 00
For interest,	4,141 77
For depreciation fund,	9,932 68

\$99,866 33

MUNICIPAL STATISTICS.

The following table contains the names of the municipalities operating lighting plants on June 30, 1912; the population of each, according to the census of 1910; the kind of supply and the year when the same was begun; the amount invested in the plant since the inception of the enterprise, including that raised by loans and by direct taxation; the total valuation of all estates in town for the year of the return, and the amount per thousand of valuation raised by taxation for all purposes. The towns of Ashburnham, Belmont, Groton, Groveland, Hingham, Holden, Norwood, Rowley, Shrewsbury, Sterling, Templeton, Wellesley and West Boylston have only distributing plants, and buy their electricity, the first and eleventh named from the Gardner Electric Light Company, the second from the Cambridge Electric Light Company, the third from the Ayer Electric Light Company, the fourth from the Haverhill Electric Company, the fifth from the Weymouth Light and Power Company, the seventh and twelfth from the Edison Electric Illuminating Company of Boston, the eighth from the municipal plant of Ipswich, the ninth from the Marlborough Electric Company, and the sixth, tenth and last from the Connecticut River Transmission Company.

MUNICIPALITY.	Population.	Year of Beginning.	Kind of Supply.	Total Invest- ment to June 30, 1911.	Total Invest- ment to June 30, 1912.	Valuation of Estates.	Tax Rate.
Ashburnham, . . .	2,107	1908, . . .	Electric lighting, .	\$11,600 00	\$15,050 00	\$991,000	\$20 00
Belmont, . . .	5,542	1898, . . .	Electric lighting, .	49,178 00	50,720 00	6,892,580	18 30
Braintree, . . .	8,066	For streets, 1892, . Commercial, 1894, }	Electric lighting, .	147,454 00	150,092 00	7,908,477	19 00
Chicopee, . . .	25,401	1896, . . .	Electric lighting, .	201,781 00	301,104 00	14,249,150	21 00
Concord, . . .	6,421	1900, . . .	Electric lighting, .	147,021 00	154,914 00	8,430,670	14 00
Danvers, . . .	9,407	For streets, 1889, . Commercial, 1896, }	Electric lighting, .	132,635 00	146,386 00	6,610,365	21 60
Groton, . . .	2,155	1909, . . .	Electric lighting, .	21,123 00	23,323 00	3,971,639	10 00
Groveland, . . .	2,253	1907, . . .	Electric lighting, .	15,100 00	16,350 00	1,188,345	22 80
Hingham, . . .	4,965	1895, . . .	Electric lighting, .	53,549 00	54,912 00	7,852,485	13 00
Holden, . . .	2,147	1912, . . .	Electric lighting, .	-	12,870 00	1,376,882	16 30
Holyoke, . . .	57,730	1902, . . .	Gas and electricity, .	1,549,226 00	1,725,127 00	51,843,656	17 00
Hudson, . . .	6,743	1897, . . .	Electric lighting, .	86,715 00	89,617 00	4,046,570	20 30
Hull, . . .	2,103	1894, . . .	Electric lighting, .	174,975 00	178,235 00	7,598,083	14 80
Ipswich, . . .	5,777	1903, . . .	Electric lighting, .	59,511 00	71,511 00	5,644,310	16 60
Mansfield, . . .	5,183	1904, . . .	Electric lighting, .	84,443 00	107,343 00	4,493,937	24 80

Marblehead, . . .	7,338	1895, . . .	Electric lighting, .	181,808 00	184,308 00	10,198,916	18 00
Merrimac, . . .	2,202	1904, . . .	Electric lighting, .	21,080 00	22,076 00	1,339,714	24 00
Middleborough, . . .	8,214	1893, . . .	Gas and electricity, .	147,530 00	167,130 00	5,053,958	22 30
Millers Falls, . . .	—	1904, . . .	Electric lighting, .	15,295 00	15,295 00	961,834	4 20
North Attleborough, . . .	9,562	1894, . . .	Electric lighting, .	136,309 00	136,309 00	9,107,844	19 50
Norwood, . . .	8,014	1907, . . .	Electric lighting, .	71,552 00	71,552 00	14,362,465	9 00
Peabody, . . .	15,721 {	For streets, 1892, . Commercial, 1893, }	Electric lighting, .	184,995 00	188,814 00	12,572,650	22 00
Reading, . . .	5,818	1895, . . .	Electric lighting, .	138,377 00	163,627 00	6,539,924	19 50
Rowley, . . .	1,368	1910, . . .	Electric lighting, .	14,401 00	18,201 00	2,422,011	8 00
Shrewsbury, . . .	1,946	1908, . . .	Electric lighting, .	33,243 00	37,536 00	1,709,184	13 60
Sterling, . . .	1,359	1911, . . .	Electric lighting, .	—	8,117 00	1,195,330	13 20
Taunton, . . .	34,259	1897, . . .	Electric lighting, .	390,437 00	390,437 00	23,393,251	19 50
Templeton, . . .	3,756	1907, . . .	Electric lighting, .	28,112 00	30,010 00	1,824,912	21 00
Wakefield, . . .	11,404	1894, . . .	Gas and electricity, .	265,881 00	265,881 00	10,930,508	18 50
Wellesley, . . .	5,413 {	For streets, 1892, . Commercial, 1906, }	Electric lighting, .	80,569 00	80,569 00	17,135,145	11 00
West Boylston, . . .	1,270	1911, . . .	Electric lighting, .	19,670 00	21,670 00	827,040	12 00
Westfield, . . .	16,044	1899, . . .	Gas and electricity, .	279,521 00	246,000 00	10,128,584	17 00

In the following data the financial operations of all the municipal plants in the State are combined from the items relating to the manufacture and sale of gas and electricity in the returns of the last two years: —

Electricity.

	YEAR ENDING JUNE 30,	
	1911.	1912.
INCOME: —		
From sale of commercial arc lights,	\$4,468 25 ¹	\$3,239 69 ¹
sale of commercial incandescent lights,	4,674 52 ¹	8,016 41 ¹
sale of domestic incandescent lights,	272,751 56 ²	328,985 49 ²
sale of electric power,	282,395 65 ²	292,217 28 ²
sale to other plants,	218,495 41	262,183 55
rent of meters,	4,435 27	6,624 14
rent of fixtures,	2,194 48	996 86
other sources,	2,098 04	2,266 27
	9,323 33	11,698 18
Total,	\$800,836 51	\$916,227 87
EXPENSES: —		
Coal,	\$203,874 13	\$230,583 92
Oil and waste,	6,579 45	6,690 29
Water,	6,039 89	5,807 89
Wages at station,	122,069 10	127,098 83
Repairs of real estate,	6,263 78	9,864 29
Repairs of steam plant,	16,687 99	27,476 70
Repairs of electric plant,	12,165 34	11,235 48
Station tools and appliances,	4,684 34	4,151 99
Current bought,	74,939 28	88,757 49
Wages for care of lights, etc.,	35,084 88	40,104 22
Repairs of lines and lamps,	64,144 27	74,053 61
Carbons,	2,415 02	2,520 70
Incandescent lamps,	24,332 24	32,992 42
Globes,	935 99	1,289 81
Distribution tools and appliances,	14,200 58	19,193 42
General salaries,	37,697 76	39,602 36
Salaries of municipal light boards,	3,205 00	3,255 00
Committee expenses,	111 63	2,302 93
Auditors' fees,	58 62	160 00
General office expenses,	15,249 11	18,656 88
Rents,	518 50	594 00
Insurance,	14,766 89	14,651 33
Law expenses,	68 58	243 71
Claims,	25 00	3,015 00
Bad debts,	564 92	978 42
Incidentals,	543 89	629 94
Total,	\$667,226 18	\$765,910 63
Leaving an apparent profit on operating account of	\$133,610 33	\$150,317 24
With which is to be considered the following: —		
Interest on notes and bonds,	87,306 44	88,105 45
Depreciation,	122,668 36	124,921 11
Losses on other items,	4,088 97	6,882 55
Leaving, as the expenditures, for town and city lighting,	\$80,453 44	\$69,591 87
Less gains on jobbing,	1,536 25	1,485 48
	\$78,917 19	\$68,106 39

¹ By contract.² By meter.

Gas.

	YEAR ENDING JUNE 30.	
	1911.	1912.
INCOME: —		
From gas sold by meter,	\$250,052 36	\$258,680 85
sold to gas companies,	7,292 70	4,257 24
sales of coke,	10,613 76	13,613 47
sales of tar,	3,739 85	5,386 10
rent of meters,	78 69	163 49
other sources,	—	17 57
Total,	\$271,777 36	\$282,118 72
EXPENSES: —		
Coal,	\$69,426 90	\$72,470 36
Gas oil,	20,497 17	20,394 72
Purifying materials,	1,091 32	2,358 77
Water,	564 81	518 79
Wages at works,	39,906 64	49,583 66
Repairs, real estate,	1,368 18	2,211 76
Repairs and maintenance at works,	17,480 35	16,075 32
Tools, apparatus and machinery,	1,769 61	2,743 87
Wages of meter takers, clerical labor in distribution department,	6,948 05	8,368 30
Repairs, renewals and maintenance of mains and services,	3,229 52	4,219 83
Distribution tools, etc.,	1,874 32	3,288 85
Repairs and renewals of meters,	4,798 31	4,653 45
Gas stove setting, repairs and renewals,	1,518 00	815 89
General salaries,	10,031 02	10,731 34
Auditors' fees,	53 63	60 65
Salaries of municipal light boards,	300 00	300 00
Committee expenses,	—	1,817 55
General office expenses,	3,637 57	3,551 97
Insurance,	1,482 91	973 71
Law expenses,	—	137 50
Bad debts,	226 44	375 99
Incidentals,	89 73	161 07
Total,	\$186,294 48	\$205,813 35
Leaving an apparent profit on the gas business of	\$85,482 88	\$76,305 37
From which is to be deducted: —		
Interest on bonds and notes,	\$22,060 28	\$22,281 15
Depreciation,	32,752 07	35,739 95
Losses on bad bills, etc.,	133 39	2,402 84
Making a total of	\$54,945 74	\$60,423 94
Add gains on jobbing,	1,407 21	181 07
Leaving a net gain of,	\$56,352 95	\$60,605 01

Aggregates from the balance sheets in the several municipal returns of the last two years show the following facts: —

	YEAR ENDING JUNE 30.	
	1911.	1912.
ASSETS: —		
Electric: —		
Real estate,	\$243,830 65	\$245,272 37
Steam plant,	692,066 74	689,981 02
Electric plant,	511,549 93	500,433 68
Electric lines,	775,384 49	854,972 29
Other plant items,	534,049 37	574,221 47
Materials,	123,686 30	139,988 24
Gas: —		
Real estate,	383,834 57	376,619 94
Machinery,	231,631 22	240,540 45
Street mains,	264,268 52	277,957 00
Gas meters,	113,794 52	120,590 06
Materials,	25,354 45	28,047 31
General cash (or town treasury),	242,705 22	427,754 94
Depreciation cash,	120,181 69	148,886 03
Due for electricity,	110,224 82	120,454 64
Due for gas,	20,707 08	22,501 57
Other accounts due,	17,125 08	18,934 50
Sinking funds,	298,873 81	330,162 73
Deficit,	181,522 76	140,969 76
	\$4,890,791 22	\$5,258,288 00
LIABILITIES: —		
Appropriations for construction,	\$676,246 54	\$751,903 52
for extraordinary repairs,	5,720 10	5,720 10
for bond payments,	447,900 00	618,866 75
for note payments,	291,334 05	321,735 72
for sinking funds,	240,869 80	259,629 80
for fire alarm,	1,715 06	2,822 38
Overdrafts,	267,490 82	256,410 74
Bonds outstanding,	2,342,200 00	2,436,100 00
Notes payable,	432,071 99	429,030 32
Unpaid bills,	68,467 11	50,420 55
Deposits,	9,495 69	2,228 17
Interest due and not paid,	329 44	9,561 93
Interest accrued but not due,	20,435 50	23,901 05
Other amounts due,	82,382 87	82,885 07
Cash overdrawn,	4,132 25	7,071 90
	\$4,890,791 22	\$5,258,288 00

Price.

The following table shows the prices charged by each municipality for commercial light and power on June 30, 1912:—

MUNICIPALITY.	LIGHTING.			POWER.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS.)	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Ashburnham,	12 to 9 cents.	-	-	10 cents, .	No wiring; no free renewals. No discounts. Power rates, 10 to 5 cents a k. w. h. Minimum charge per month, from \$1 for 2 h. p. to \$8 for 10 to 25 h. p.	12	15
Belmont,	15 cents, .	-	\$7.50 per month on moon-light schedule.	10 cents, .	Discount of 20% on bills for incandescent lights if paid before the 15th of the month. Lamp renewals at cost. Minimum monthly charge of \$1. Power at 10 cents per k. w. h. net where consumption per month is 100 k. w. h. or more; under this amount same prices and discounts as for commercial lights.	12	12
Braintree,	12 cents, .	-	-	8 cents, .	Meter rental 30 cents per quarter. Minimum charge, including meter rent, \$10 per year. Power at 6 to 8 cents a k. w. h. No wiring, nor free renewals.	12	12

MUNICIPALITY.	LIGHTING.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Chicopee, . . .	1 2 t o 4 cents.	50 cents per month for 3 16 c. p. lamps and any larger number accordingly.	-	6 cents, .	Incandescent lamp renewals free. No wiring. Minimum charge 50 cents per month. Power from 2 to 6 cents a k. w. h. Steam, 33½ cents per 1,000 pounds of water condensed. Minimum charge, \$1 per h. p. per month on all motors installed. Lamp renewals at cost. No wiring. For cooking and heating, 4 cents a k. w. h. Minimum charge for light, 75 cents a month; for power, \$1 per h. p. per month; for cooking and heating, 75 cents a month; an additional charge of 1 cent a k. w. h. will be made on all lighting bills in excess of the minimum rate, and 10% on all lighting bills at the minimum rate, and power and cooking and heating bills not paid on or before the 15th of month.	12	12
Concord. . . .	9 cents, .	-	-	5 cents, .	Discount of 1 cent a k. w. h. if paid in 10 days. Lamp renewals at cost. No wiring. Power at 1¼ to 4 cents a k. w. h., according to amount used. Minimum charge, 50 cents a month for light, and \$2 a month for motors.	9	9
Danvers, . . .	11 cents, .	-	11 cents, .	10 cents, .		10	10

Groton, . . .	16 to 13 cents.	-	-	-	10 to 13 cents a k. w. h. .	Discount 10% if paid within 10 days. Minimum monthly charge, \$1. No wiring or renewals.	14.4	14.4
Groveland, . .	13 cents, .	-	-	-	13 cents, .	Discount of 1 cent a k. w. h. if paid in 10 days. Lamp renewals free. No free wiring. Minimum charge of \$1 a month. Power rates 13 cents a k. w. h. first 10 k. w. less 1 cent a k. w. h. if paid by 15th of month.	12	12
Hingham, . . .	- ¹	-	-	-	10 cents, .	Minimum charge, 50 cents a month for light; \$1 a month for power and charging electric vehicles. No free lamp renewals. Special contract rates for power, from 10 cents to 5½ cents per k. w. h., according to amount used. Wiring charged for according to time and material used. For light, 12 cents a k. w. h. to 100 k. w. h.; over 100 k. w. h., 8 cents per k. w. h.	10	10
Holden, . . .	12 cents, .	-	-	-	-	Discount of 10% on bills for incandescent at contract rates for prompt payment; 2 cents a k. w. h. for incandescents at meter rate if paid before the 10th of the month. First installation of lamps and renewals free, except tungsten lamps. Power discounts varying from 20 to 55% according to quantity used. Net rates: 2.1 cents a k. w. h. for 50 h. p. to 1.3 cents a k. w. h. for 750 h. p. Per ampere, \$2.50 for 17½ amperes to \$13.25 for 176½ amperes for 16 hour power. Minimum bill, 50 cents a month less 8 cents if paid before the 10th of the month.	12	-
Holyoke, . . .	8 cents, .	6 or 7 nights per week until 12, \$12 a year; 7 nights per week, run all night, \$24 a year; 8 c. p. lamps, one-half above prices; 24 c. p. lamps, one and one-half above prices; 32 c. p. lamps, double the above prices.	\$80 per year, net, .	-	5 cents, .		4	4

¹ Yearly rates 10 cents; 14 cents to summer residents.

MUNICIPALITY.	LIGHTING.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM Net Price per K. W. H. (Cents).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Area by Contract.			1912.	1911.
Hudson,	20 cents, .	-	-	3.8 cents,	A minimum charge of \$12 a year is made when current used monthly does not exceed 5,000 watt hours. When amount of current consumed per month amounts to 1,500 watt hours for each 16 c. p. lamp or equivalent 20 cents a k. w. h. is charged, after which 10 cents a thousand watt hours will be charged. Discount of 25% if bills are paid on or before 15th of the month; after the 15th and on or before the 25th, 15% discount. New lamps: 20 cents each for 2 and 4 c. p. carbon lamps, 30 and 50 watt gem lamps; 80 watt gem lamps 35 cents; renewals free; other lamps about cost, renewals about half cost. No free wiring. Power rates from 2.83 cents a h. p. hour up to 3 h. p., 1.83 cents for 50 h. p. and over; discount of 10% if paid before 15th of the month. Minimum monthly charge of \$2.50 for 2 h. p. to \$1 for over 20 h. p. Lamp renewals 20 cents each and up, according to size and kind. No wiring. Minimum charge of \$10 per year for lighting. Power rates, service or capacity charge, \$30 per season or year per k. w. capacity re-	15	15
Hull,	25 cents, .	-	-	6 cents, .		20	20

Ipswich,	12 cents, .	Outside lights: all night 16 c. p. lamps, \$1 a month; to 11 o'clock, 50 cents.	-	-	12 cents, .	<p>quired, plus 6 cents a k. w. h. for all current used; customers not using power from 7 p.m. to 6 a.m. may use at all other times at 6 cents a k. w. h., with a minimum requirement of \$7 for the season or year. Discount of 20% if paid within 10 days from date of bill. To yearly customers a discount of 40% will be allowed if paid within 10 days from date of bill; 20% discount, or $\frac{1}{2}$ of the 40%, will be allowed to yearly customers irrespective of time of payment. All customers having a gross bill of \$50 or more per month will receive discount of 36% if bill is paid within 10 days from date of bill. Any customer using electricity the entire twelve months of the year at a voltage of 2,200 to 2,300, metered at this voltage and the department <i>not</i> furnishing any apparatus beyond the meter, with the amount of capacity required in either July and August not exceeding the capacity required in either of the other ten months of the calendar year, and with a yearly consumption of 48,000 kilowatts or more, will receive a discount of 75%.</p> <p>Price 10 cents a k. w. h. to one large consumer. Town of Rowley at 6 cents a k. w. h. Power prices same as for light. Discount of 10 per cent. if paid before 20th of the month. Minimum monthly charge of 50 cents. Lamp renewals free. Wiring at cost plus 10%.</p>	10.8	10.8
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MUNICIPALITY.	LIGHTING.			Power.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Arcs by Contract.			1912.	1911.
Mansfield, . . .	15 cents, .	50 cents a month for 16 c. p. carbon lamp or its equivalent.	-	10 cents, .	Minimum charge, \$1 a month for light; for power, \$2 a month. Power rates 10 cents to 2 cents a k. w. h., according to amount used. Lamp renewals at cost. No wiring. Discounts vary from 6½% to 66½%, according to amount of bill, if paid on or before 20th of the month. No discount on monthly bills less than \$2.	15	15
Marblehead, . . .	15 cents, .	-	15 cents a k. w. h.; \$12 a month flat for each arc for short service.	6 cents, .	Power rates 6 cents to 3.1 cents, according to amount used. Electric heating rates from 10 cents a k. w. h. to 4 cents. Minimum charge, 50 cents for light and heat and \$2 a month for power. Discounts, if bills are paid on or before 15th of the month: on incandescent lights, 20%; on arc lights, 33½%. Renewals free; tungstens at cost. No wiring.	12	12
Merrimac, . . .	20 cents, .	-	-	-	Minimum charge of \$12 a year. No wiring or free lamps supplied. Power from 4 to 8½ cents, according to amount used. Minimum charge, \$18.90 a year. Discount 25% to 50%, according to amount used, if paid before 15th of the month.	15	20
Middleborough, . . .	15 cents, .	½ cent per estimated lamp hour.	At meter rates as for incandescents.	10 cents, .	Discounts from 5 to 30%, according to amount used. Power discounts from	14½	14½

Millers Falls, . . .	15 cents, .	-	-	-	7 cents, .	15	15
<p>5 to 75%, according to amount used. No free lamps or wiring. Minimum yearly charge of \$12. No free lamps or wiring. 300 k. w. h. in one month, 12 cents a k. w. h. Power 7 cents to 5 cents a k. w. h., according to amount used. Minimum monthly charge for light, 35 cents; for power \$2 a month. Minimum yearly charge for breakdown service, \$6 a year per k. w. connected transformer capacity, less meter rental of 50 cents a month or current consumed. Power at 10 cents a k. w. h. or 7½ cents a h. p. h., with discounts of from 5 to 70%, according to amount used. 10% discount for payment within 16 days; for continuous power service .035 to .0209 — net per k. w. h., according to quantity used, including prompt payment discounts; or \$73.92 to \$44.32 net a h. p. hour, according to h. p. of demand. Minimum charge for intermittent power service of \$1 a h. p. a month when monthly bill is less than that amount. No free wiring or lamp renewals. Power rates: daily use of demand, first hour, 12 cents a k. w. h.; second hour, 8 cents a k. w. h.; remaining usage, 4 cents a k. w. h. Discounts on amounts in excess of \$25 per month, 33⅓%. Large power customers \$2.50 per k. w. of demand, and 1½ cents per k. w. h. used. No wiring. Lamp renewals free. Minimum monthly charge \$1.</p>							
North Attleborough, .	15 cents, .	-	-	Same as for incandescent.	10 cents, .	13.5	13.5
Norwood, . . .	9 cents, .	15 cents primary use; 4 cents for secondary use.	At incandescent meter rates.	-	-	9	11

MUNICIPALITY.	LIGHTING.			Power. Maximum Rates by Meter per Kilowatt Hour.	Remarks (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE FOR K. W. H. (Cents).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.	Area by Contract.			1912.	1911.
Peabody,	13 cents, 1, 2	Minimum charge \$6 a year,	At meter rates,	10 cents, .	Power and heating at special contract rates: minimum of 10 cents a k. w. h. for first 10 k. w. h. of demand per month's use; in excess of that from 5 cents to 1 cent a k. w. h. Discount of 10% off light and power bills if paid before 15th of the month. Free lamp renewals of standard make. No wiring. Discount of 10% if bill is paid by 15th of the month. Original installation of lamps and renewals free. No wiring. Minimum charge of \$1 a month for 8 months, 50 cents a month for 4 summer months; Lynnfield Center, North Reading and Wilmington, \$1 a month less 10% from above minimum rates. Power 10 cents to 3 cents a k. w. h., according to amount used. Minimum charge of \$1 a h. p. per month up to and including 5 h. p.; over 5 h. p., 50 cents a h. p. Cooking and heating 4 cents a k. w. h. less 10%, if paid by 15th of the month; minimum charge for service, \$1 per month.	11.7	12.35
Reading,	12 cents, 3	-	At incandescent meter rates.	10 cents, .	Discount of 10% if bill is paid by 15th of the month. Original installation of lamps and renewals free. No wiring. Minimum charge of \$1 a month for 8 months, 50 cents a month for 4 summer months; Lynnfield Center, North Reading and Wilmington, \$1 a month less 10% from above minimum rates. Power 10 cents to 3 cents a k. w. h., according to amount used. Minimum charge of \$1 a h. p. per month up to and including 5 h. p.; over 5 h. p., 50 cents a h. p. Cooking and heating 4 cents a k. w. h. less 10%, if paid by 15th of the month; minimum charge for service, \$1 per month.	10.8	12.8
Rowley,	18 cents, .	-	-	18 cents, .	Discount of 16 2/3%. No free renewals or wiring. Minimum yearly charge of \$12.	15	18

MUNICIPALITY.	LICENSING.		POWER.	REMARKS (Discounts, Minimum Charges, etc.).	MAXIMUM NET PRICE PER K. W. H. (CENTS).	
	Maximum Rates by Meter per Kilowatt Hour.	Incandescents by Contract.			1912.	1911.
Wellealey.	10 cents.	Fixed charges: \$5 a month per k. w. up to 15 k. w.; \$3 a month per k. w. from 15 to 55 k. w.; \$2.50 a month per k. w. over 55 k. w.; charges for current: 5 cents a k. w. h. up to 1,500 k. w. h. per month; 3 cents a k. w. h. from 1,500 k. w. h. to 5,500 k. w. h.; 2.5 cents a k. w. h. in excess of 5,500 k. w. h. per month.	7 cents.	Minimum charge of \$1 a month. Renewals free, except for tungsten lamps. No wiring.	10	10.8
West Boylston.	12 cents.	-	-	Minimum monthly charge, \$1. No wiring; renewals at cost.	12	12
Westfield.	12 cents.	\$5 per light per month.	5 cents.	Discount 2 cents a k. w. h. if bill is paid on or before 15th of the month. Lamps renewed at 25 cents for carbon lamps; 25 watt Masda, 50 cents; 40 watt, 55 cents; 60 watt, 75 cents; 100 watt, \$1.10 each. Power at 5 cents a k. w. h., with discount of from 10 to 42%, according to k. w. h. used. Minimum charge \$1 a month for light and 75 cents a h. p. per month for power.	10	10.8

Street Lighting by Municipal Plants.

The statutes relating to municipal light plants prescribe that the excess of the estimated annual expense (including the gross expense of operation, maintenance and repair, interest on the debt created to pay for the plant, depreciation, sinking fund or debt requirements, and loss if any, in the operation of the plant during the preceding year) over the estimated income from sales to private consumers shall be included in the annual appropriations for maintenance and in the tax levy. For this excess, which it must thus raise by taxation, the city or town receives its street and in some cases its public building lighting. In some instances electricity furnished to public buildings is metered, charged at the same rates as to private consumers, and paid out of other appropriations in the same manner as though the plants were privately owned. In some instances also specific appropriations are made for street lighting, presumably with the number and type of lamps to be supplied in view. For these reasons, while it is desirable to know from the standpoint of the city or town as a municipal corporation what it is getting for the money raised for the plant by taxation, and on a basis comparable with the cost to it of lighting its buildings and streets if served by a privately owned plant, such information can only be obtained by estimating the electricity used in public buildings when not measured, and computing the cost per street lamp based on the average number of lights used per day and apportioned between different types of lamps according to the energy theoretically necessary to supply them. In the four pages following, the data used in arriving at these results and the results themselves will be found tabulated.

The second table is devised upon the theory that for all its expenditure the municipality receives only its street lighting and the income from its commercial business, and that the cost of the former to the city or town is the difference between such income and the entire cost of carrying on the business. Obviously such cost is affected by the profit or loss on the commercial lighting.

The following table shows the number of street lights and their wattage installed on June 30, 1912, and the average number in use throughout the year ending June 30, 1912, with the average number of days and hours the same were burned in the municipalities named: —

Street Lights — Operation.

MUNICIPALITY.	Number of Public Lamps.	Wattage.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.
Ashburnham,	120	40	103	4.9	24.1
Belmont,	310 54 2 513	53 250 588 50	354 6	6.1	27.7
Braintree,	90 45 100	100 225 40	644 79	8.1	28.6
Chicopee,	191 50	305 550	241	10.6	30.5
Concord,	946 28	50 50	935	9.6	30.2
Danvers,	85 510 68	75 100 525	575 74	9.2	29.1
Groton,	194	50	193	5.0	25.3
Groveland,	251	75	248	6.0	27.8
Hingham,	496 53 8	50 112 350	535	5.7	28.8
Holden,	86 41 33 2 1	40 60 50 60 75	122	5.0	26.4
Holyoke,	4 210 13 3 471	100 125 250 500 400	195 488	10.9	30.5
Hudson,	370 10	50 450	320 14	6.9	30.3
Hull,	565 8	50 350	478	6.0	28.3
Ipswich,	829	60	766	10.0	25.9
Mansfield,	390 31	40 250	413	10.6	30.5
Marblehead,	152 43 168	75 112 350	173 166	10.1	30.6
Merrimac,	11 310 175 1	40 60 40 250	321 173	5.8	27.8
Middleboro, { Middleboro,	13 1 12	500 40 500	13 1 12	4.8	25.3
Middleboro, { No. Middleboro,	30 88 3	40 40 726	30 88 3	5.9	30.5
Millers Falls,	729	50	728	4.3	28.7
North Attleborough,	452	40	432	6.1	29.4
Norwood,	188 2 306	40 50 40	183 2	9.0 9.5 10.6	27.5 28.8 25.4
Peabody,	1 3 1	100 250 450	293	10.6	30.5
Reading, { North Reading,	134 125	500 40	142 122	5.0	27.2
Reading, { Reading,	152 12	75 125	119	10.4	30.5
Reading, { Wilmington,	110 120	480 40	121 76	6.8	27.7
Rowley,	186	40	183	5.1	23.9
Shrewsbury,	337	40	335	5.5	24.8
Sterling,	61	75	61	6.7	24.2

Street Lights — Operation — Concluded.

MUNICIPALITY.	Number of Public Lamps.	Wattage.	Average Daily Number.	Number of Hours per Night.	Number of Nights per Month.
Taunton,	{ 1,175 46 3 189	{ 50 250 400 475	{ 1,185 196	{ 10.7	30.5
Templeton,	{ 197 459	{ 50 50	{ 193 443	{ 4.9 5.5	25.3 26.8
Wakefield,	{ 38 310 471	{ 500 30 40	{ 44	{ 8.6	29.6
Wellesley,	{ 5 33 97	{ 50 68 100	{ 911	{ 6.5	27.1
West Boylston,	{ 205 40 48	{ 40 75 80	{ 199 74	{ 10.7	30.5
Westfield,	{ 33 116	{ 495 560	{ 145		

The following table is compiled to indicate, as nearly as may be from the data available, the cost per lamp for the year ending June 30, 1912, of the electric street lights in the municipalities named, determined by the items shown and upon the average daily number of lights used during the year, as given in the preceding table. Obviously such cost is affected by the profit or loss on the commercial business. The apparent loss in operating is the difference between the operating expense and the income from private consumers. Interest is computed upon the total investment at the beginning of the year, at the rate paid upon the bonds or notes, and depreciation upon the same amount at the rate of 3 per cent. The value of electricity supplied to municipal buildings is allowed at a fair amount, as determined and stated by the respective managers. Whenever the street lights are of different wattages, the total cost obtained in the manner indicated is apportioned to each kind, according to the amount of energy theoretically necessary under average conditions to maintain the lights at the standard candle-power.

MUNICIPALITY.	Net Loss in Operation.	Interest.	Depreciation.	Other Cost Items.	Total.	Less supplied Public Buildings.	Capacity in Candle-power.	Capacity in Watts.	Cost of Street Lamps per Year.
Ashburnham,	\$756 41 ¹	\$510 40	\$348 00	-	\$101 99	\$140 35	-	-	\$11 06
Belmont,	3,474 85	1,967 12	1,475 34	-	6,917 31	427 56	40 200 1,200	53 250 588	\$2 18 122 66 10 13
Braintree,	3,315 09 ¹	5,603 25	4,423 62	\$2,663 29	9,375 07	150 00	40 80 200	50 100 250	20 25 50 64 7 20
Chicopee,	6,540 10	8,071 24	5,942 29 ²	82 90	20,636 53	4,666 92	32 1,200 1,200	40 305 550	54 87 ² 98 93 ⁴ 7 08
Concord,	2,772 82 ¹	5,586 80	4,410 63	228 80	7,453 41	835 54	40 40 60 80	50 50 75 100	95 1 43 1 91
Danvers,	7,314 26 ¹	5,305 40	3,979 05	149 74	2,119 98	342 50	80 1,200 2,400	100 528 50	10 07 12 49 10 16
Groton,	1,163 75	818 51	631 69 ²	2 19	2,616 14	202 61	40	50	9 68
Groveland,	1,474 00	679 50	443 41 ²	-	2,596 91	83 23	60	75	4 32
Hingham,	753 75	2,034 86	241 21 ²	-	3,028 82	193 59	32 40 280	50 350 40	14 64 7 79 11 69
Holden,	264 23	514 80	386 10	-	1,165 18	74 24	32 50	60	-
Holyoke,	71,249 55 ¹	83,579 78 ²	26,510 36 ²	255 58	-	27,096 58	-	-	17 42
Hudson,	5,119 38 ¹	3,381 89	2,489 01 ²	39 80	791 32	726 10	-	-	137 58
Hull,	3,926 06 ¹	7,698 90	5,231 56 ²	296 80	9,301 20	26 85	32 350	50 395	5 71 9 61
Ipswich,	966 72	2,380 44	1,371 32 ²	-	4,718 48	343 92	16 32	40	60 06
Mansfield,	486 15	3,377 72	2,416 04 ²	-	6,279 91	752 26	200	250	

Marblehead,	4,006 84 ¹	7,272 32	5,454 24	325 68	9,045 40	1,743 52	32	112	11 18
Merrimac,	731 77 ¹	843 20	632 40	24 41	768 24	-	60	75	7 49
Middleborough,	7,060 74 ¹	4,048 22 ²	3,036 17 ²	1,224 20	1,227 85	817 68	-	350	34 93
Millers Falls,	683 56 ¹	611 80	458 85	-	388 09	-	16	60	1 97
North Attleborough,	3,593 10 ¹	5,452 36	4,071 86 ²	19 67	5,950 79	774 29	30	40	1 31
Norwood,	9,219 38 ¹	3,040 98	1,924 45 ²	59 02	-	506 00	32	40	3 81 ⁶
Peabody,	1,400 25 ¹	7,029 81	5,549 85	-	11,179 41	3,306 45	200	250	7 64 ⁶
Reading,	6,201 20 ¹	5,708 08	3,896 30 ²	66 02	3,469 20	529 38	1,200	500	1 15 ⁷
Rowley,	427 48	576 04	432 03	49 66	1,485 21	55 65	1,200	40	14 47 ⁷
Shrewsbury,	456 45	1,229 99	997 29	-	2,683 73	322 91	32	40	2 72
Sterling,	103 74	324 68	243 51	17 40	689 33	57 36	32	40	49 44
Taunton,	26,092 76 ¹	14,641 38	11,713 11	2,534 14	2,795 87	3,153 58	60	75	7 11
Templeton,	1,279 23 ¹	1,180 70	831 36 ²	22 40	755 23	30 70	-	40	-
Wakefield,	119 98 ¹	4,057 53 ²	3,121 18 ²	33 34	7,092 07	1,147 48	40	50	3 76
Wellesley,	4,586 84 ¹	3,222 76	2,417 07	28 06	1,081 05	683 90	1,200	50	6 76
West Boylston,	587 94	786 80	590 10	-	1,964 84	67 12	16	500	67 62
Westfield,	7,567 23 ¹	4,495 79 ²	3,645 23 ²	658 27	1,232 06	1,354 67	25	68	42
							25	58	58
							32	30	25
							60	40	34
							80	75	64
							32	100	85
							-	40	9 56
								-	-

¹ Gain in operating accounts. ² Depreciation less jobbing and other income received. ³ 4 ampere arcs. ⁴ 6.6 ampere arcs.
⁵ Interest and depreciation here stated are the same per cent. of total interest and depreciation as electric plant assets are of the total combined plant, as shown by the books. ⁶ 12 o'clock lights. ⁷ All night lights.
⁸ North Middleborough. ⁹ Reading. ¹⁰ North Reading. ¹¹ Wilmington.

The towns of Middleborough, Wakefield and Westfield, and the city of Holyoke operate gas plants, the first named since Oct. 31, 1893, the second since Aug. 7, 1894, the third since June 1, 1899, and the last since Dec. 15, 1902.

The plant at Middleborough makes water gas, that at Westfield coal gas and those at Holyoke and Wakefield coal and water gas.

During the year 1912 five examinations were made by the State inspector for candle-power and purity in Middleborough, eleven in Wakefield, fourteen in Westfield and sixteen in Holyoke. Impurities prohibited by statute were found three times in Middleborough and six times in Westfield. The candle-power was found below the legal standard twice in Wakefield and once in Westfield.

The average price received in Holyoke for gas sold in the year ending June 30, 1912, was \$1 per thousand; in Middleborough, \$1.93; in Wakefield, \$1.28; and in Westfield, \$1.11. The cost of gas during the same period, computed by the method applied to the cost of electric lighting in the table on page 264 was, in Holyoke, \$0.924; in Middleborough, \$5.93; in Wakefield, \$1.37; in Westfield, \$1.09.

INSPECTION OF GAS AND GAS METERS.

Gas Inspection.

Following the statutory requirement that the gas shall be tested with a burner best adapted to it, which is at the same time suitable for domestic use, the Board has continued the use of the following burners in candle-power determinations: the Sugg's London Argand burner, sizes D, old style, and D and F, new style, with six- or seven-inch chimney, for coal gas, low candle-power water gas and mixed coal and water gases; the Sugg's table-top, eight-foot size, and Bray's "slit-union" jet, seven-foot size, open burners, for the higher candle-power water gases; a small, one-foot size, iron tip open burner for oil gases, and the von Schwarz "Perfection," one-half and three-quarters foot sizes, for acetylene gas.

Of the 876 inspections made during the year ending Dec. 31, 1912, including those of gas supplied by municipal plants, 225 were made by the chief inspector.

The following tables contain the data obtained by these examinations. For convenience of comparison the oil gas and acetylene gas companies are shown in separate tables. In the ammonia column, 1. — means that the gas did not contain as much as one grain of ammonia per hundred cubic feet.

Coal-Gas Companies.

COMPANY.	Number of Inspe- ctions made.	CANDLE-POWER.			GRAINS PER ONE HUNDRED FEET OF GAS OF —	
		Average.	Highest.	Lowest.	Sulphur.	Ammonia.
Adams,	6	20.60	22.2	18.3	8.01	1.—
Amesbury,	9	19.87	21.5	17.4	11.70	1.—
Amherst,	7	20.68	22.2	19.4	10.63	1.—
Arlington,	12	19.46	21.0	16.9	10.55	1.—
Athol,	9	21.35	23.7	20.1	7.90	1.—
Attleboro,	16	16.75	17.8	15.7	22.94	1.—
Beverly,	20	17.00	19.2	15.0	24.62	1.14
Blackstone,	4	18.82	19.7	18.1	13.87	1.—
Boston,	25	18.45	19.9	17.2	19.43	1.—
Brockton,	16	19.93	21.6	18.2	8.84	1.—
Cambridge,	22	17.85	19.2	16.5	16.66	1.—
Charlestown,	19	17.23	18.6	16.3	16.58	1.—
Chicopee,	5	17.72	18.1	17.2	20.76	1.—
Citizens' (Nantucket),	2	18.15	19.7	16.6	25.10	1.—
Citizens' (Quincy),	15	18.12	19.7	16.8	16.70	1.—
Clinton,	12	20.37	22.0	18.5	9.43	1.—
Dedham,	18	17.59	19.5	15.6	17.58	1.—
East Boston,	39	17.79	19.9	16.4	17.58	1.34
Easthampton,	6	17.31	18.2	16.7	23.38	1.—
Fall River,	25	20.28	21.8	17.9	8.85	1.—
Fitchburg,	15	17.45	20.5	16.2	19.29	1.—
Framingham,	16	18.20	23.3	15.5	20.24	1.—
Gardner,	8	20.46	23.7	18.0	8.67	1.—
Gloucester,	14	19.93	22.7	16.8	10.25	1.—
Greenfield,	8	16.55	17.9	14.7	10.94	1.—
Haverhill,	18	19.30	22.0	17.4	9.80	1.—
Holyoke, ¹	16	18.70	21.6	17.2	17.60	1.—
Ipswich,	7	19.91	23.8	15.6	6.69	1.—
Lawrence,	19	18.24	20.1	17.3	14.43	1.—
Leominster,	11	20.61	22.8	18.4	8.61	1.—
Lexington,	6	20.13	22.3	18.4	9.55	1.—
Lowell,	24	18.04	19.7	16.1	14.99	1.—
Lynn,	24	18.56	19.7	16.4	16.34	1.—
Malden,	22	17.66	19.7	16.4	21.31	1.—
Marlborough,	13	17.17	18.7	15.8	17.28	5.59
Middleborough, ¹	5	21.80	24.0	18.8	11.50	1.—
Milford,	17	16.72	18.1	14.3	18.82	5.39
Natick,	16	16.52	20.4	13.5	24.33	2.46
New Bedford,	16	18.36	20.3	17.0	14.20	1.—
Newburyport,	12	17.10	17.7	16.4	17.64	3.79
Newton,	21	18.14	19.6	16.4	20.77	1.—
North Adams,	7	20.97	23.4	19.0	7.84	1.—
Northampton,	14	19.75	23.9	17.9	14.67	1.—
North Attleborough,	16	17.09	18.1	15.4	22.09	4.29
Norwood,	12	17.18	18.4	15.4	18.03	1.—
Old Colony,	9	16.80	17.7	15.1	12.82	1.—
Otis (Ware),	6	17.91	19.9	17.3	17.92	2.97
People's (Stoneham),	4	17.85	18.3	16.9	20.25	1.—
Pittsfield,	9	19.64	22.0	17.9	13.85	1.—
Plymouth,	11	16.37	18.0	12.4	18.35	3.03
Salem,	19	18.07	19.1	17.1	16.72	1.—
Spencer,	7	21.01	24.4	18.8	9.65	1.—
Springfield,	20	16.92	17.9	15.3	20.27	1.—
Suburban (Revere),	16	16.91	18.5	14.7	25.61	1.—
Taunton,	14	16.84	17.7	16.0	21.13	1.46
Vineyard (Oak Bluffs),	4	13.72	17.6	11.7	14.77	1.—
Wakefield, ¹	11	17.31	20.8	14.8	12.54	6.99
Webster,	22	21.14	24.4	18.4	9.39	1.—
Westfield, ¹	14	17.10	18.5	14.8	23.34	1.—
Williamstown,	7	20.03	21.6	17.5	7.52	1.—
Woburn,	12	17.03	18.3	15.5	16.44	2.46
Worcester County,	11	19.34	22.7	14.4	9.13	1.—
Worcester,	24	18.16	19.1	17.2	14.70	1.—

¹ Municipal plant.

Oil Gas.

COMPANY.	Number of Inspections made.	Average Candle-power.
Stoughton,	4	37.77

Acetylene Gas.

Georgetown,	2	181.50
Hyannis,	2	183.60
Marion,	2	186.00
Vineyard Haven,	2	188.75

Deficient Candle-power.

[Legal standard, 16 minimum.]

COMPANY.	Total Number of In- spections.	Candle- power.	Date.
Attleboro,	16	15.7	Mar. 5
Beverly,	20	15.9	June 12
Beverly,	—	15.5	July 2
Beverly,	—	15.0	Nov. 27
Beverly,	—	15.6	Dec. 11
Dedham,	18	15.6	Nov. 20
Framingham,	16	15.5	Oct. 2
Greenfield,	8	14.7	Nov. 20
Greenfield,	—	15.1	Dec. 11
Ipswich,	7	15.6	June 21
Marlborough,	13	15.8	Oct. 4
Milford,	17	15.4	Aug. 8
Milford,	—	14.3	Nov. 14
Natick,	16	14.9	Jan. 24
Natick,	—	13.5	Nov. 14
Natick,	—	15.5	Nov. 26
North Attleborough,	16	15.4	July 31
Norwood,	12	15.4	Jan. 12
Norwood,	—	15.8	Dec. 20
Old Colony,	9	15.1	Nov. 13
Plymouth,	11	14.8	July 10
Plymouth,	—	12.4	Nov. 15
Springfield,	20	15.6	Oct. 16
Springfield,	—	15.3	Dec. 4
Suburban (Revere),	16	15.9	Jan. 26
Suburban (Revere),	—	15.5	July 1
Suburban (Revere),	—	14.7	Oct. 7
Suburban (Revere),	—	15.2	Oct. 21
Vineyard (Oak Bluffs),	4	13.1	Feb. 8
Vineyard (Oak Bluffs),	—	12.5	June 26
Vineyard (Oak Bluffs),	—	11.7	Dec. 4
Wakefield, ¹	11	15.8	Oct. 5
Wakefield, ¹	—	14.8	Nov. 19
Westfield, ¹	14	14.8	Mar. 8
Woburn,	12	15.5	Nov. 18
Worcester County,	11	14.4	Nov. 22

¹ Municipal plant.

Excess of Sulphur in Grains per 100 Cubic Feet.

[Legal maximum, 30 grains.]

COMPANY.	Total Number of In- spections.	Quantity (Grains).	Date.
Beverly,	20	58.0	Jan. 10
Beverly,	—	30.3	Jan. 17
Beverly,	—	32.5	Feb. 28
Beverly,	—	31.7	Mar. 20
Beverly,	—	32.3	Sept. 27
Beverly,	—	30.3	Oct. 31
East Boston,	19	31.1	Dec. 26
Easthampton,	6	31.3	Feb. 29
Framingham,	16	40.8	Feb. 27
Malden,	22	33.7	Nov. 7
Milford,	17	35.3	Sept. 20
Natick,	16	30.3	Apr. 24
Natick,	—	32.5	May 24
Natick,	—	31.3	June 5
Natick,	—	36.8	Oct. 24
Newton,	21	30.2	June 5
Newton,	—	30.9	Aug. 20
North Attleborough,	16	33.3	Apr. 23
Springfield,	20	35.9	Nov. 14
Suburban (Revere),	16	30.3	May 3
Suburban (Revere),	—	35.3	July 17
Suburban (Revere),	—	31.1	Oct. 21
Suburban (Revere),	—	39.5	Nov. 15
Taunton,	14	33.8	Apr. 2
Taunton,	—	32.0	Nov. 15
Westfield, ¹	14	36.6	July 25
Westfield, ¹	—	32.3	Nov. 13
Westfield, ¹	—	38.3	Dec. 26

¹ Municipal plant.

Excess of Ammonia in Grains per 100 Cubic Feet.

[Legal maximum, 10 grains.]

COMPANY.	Total Number of In- spections.	Quantity (Grains).	Date.
Marlborough,	13	20.6	May 29
Milford,	17	18.5	Feb. 27
Milford,	—	17.5	July 18
Natick,	16	15.4	June 25
Newburyport,	12	13.3	July 11
North Attleborough,	16	14.5	Apr. 10
Wakefield, ¹	11	10.4	May 21
Wakefield, ¹	—	17.2	May 31
Wakefield, ¹	—	13.5	July 12
Woburn,	12	13.9	June 22

¹ Municipal plant.

Sulphuretted Hydrogen.

[Legal standard, none allowed.]

COMPANY.	Total Number of In- spections.	Date.
Amesbury,	9	Jan. 5
Amesbury,	—	Mar. 28
Amesbury,	—	Sept. 17
Amherst,	7	Jan. 4
Athol,	9	Apr. 2
Athol,	—	June 12
Athol,	—	July 2
Athol,	—	Aug. 7
Athol,	—	Aug. 27
Beverly,	20	Dec. 11
Brockton,	16	Feb. 16
Brockton,	—	Sept. 12
Clinton,	12	Mar. 22
Framingham,	16	Jan. 10
Framingham,	—	Oct. 2
Gardner,	8	Feb. 27
Gardner,	—	Mar. 26
Gardner,	—	May 24
Gardner,	—	Sept. 18
Gardner,	—	Nov. 20
Gardner,	—	Dec. 10
Haverhill,	18	Jan. 6
Ipswich,	7	Sept. 11
Leominster,	11	Feb. 27
Malden,	22	Nov 19
Malden,	—	Dec. 17
Norwood,	12	Feb. 9
Norwood,	—	Mar. 15
Norwood,	—	Dec. 20
Old Colony,	9	Sept. 18
Plymouth,	11	Jan. 17
Salem,	19	Dec. 11
Spencer,	7	Dec. 12
Vineyard (Oak Bluffs),	4	Feb. 8
Vineyard (Oak Bluffs),	—	June 26
Vineyard (Oak Bluffs),	—	Aug. 23
Vineyard (Oak Bluffs),	—	Dec. 4
Webster,	22	Feb. 21
Webster (Southbridge station),	—	Feb. 21
Webster (Southbridge station),	—	Sept. 20
Webster,	—	Oct. 10
Webster (Southbridge station),	—	Oct. 10
Webster,	—	Nov. 29
Webster (Southbridge station),	—	Nov. 29
Westfield, ¹	14	Aug. 28
Westfield, ¹	—	Sept. 20
Westfield, ¹	—	Dec. 5
Woburn,	12	Nov. 5
Worcester County,	11	June 14

¹ Municipal plant.

EUDIOMETRIC ANALYSES.

The following eudiometric analyses have been made during the year: —

Number.	COMPANY.	Date.	Candle-power.	Specific Gravity.	Illuminants.	Marsh Gas.	Hydrogen.	Carbonic Oxide.	Nitrogen.	Oxygen.	Carbonic Acid.
A 4	Arlington, . . .	Apr. 17	20.7	-	13.15	18.69	33.47	24.50	6.17	0.59	3.43
A 6	Arlington, . . .	Dec. 24	17.5	-	10.30	20.55	37.40	25.09	4.45	0.42	1.79
A 5	Beverly, . . .	June 12	15.9	-	3.15	36.56	51.86	5.88	1.15	0.08	1.32
153	Beverly, . . .	Mar. 20	17.4	-	3.63	34.67	53.14	5.33	2.19	-	0.99
167	Easthampton, . .	Oct. 14	16.3	0.438	4.21	33.99	52.12	6.35	1.79	0.08	1.51
169	Easthampton, . .	Oct. 15	15.7	0.435	4.22	34.55	51.20	6.68	1.64	0.17	1.54
150	Fall River, . . .	Feb. 16	18.9	-	12.06	15.42	34.33	30.20	4.17	0.35	3.47
154	Fitchburg, . . .	Oct. 8	14.1	0.402	3.33	28.13	56.65	8.93	1.60	-	1.26
163	Framingham, . .	Dec. 31	21.0	-	14.82	20.09	30.62	29.61	1.75	-	3.11
165	Greenfield, . . .	May 9	16.8	-	13.25	20.76	28.47	24.51	3.08	0.47	4.46
155	Greenfield, . . .	Oct. 10	16.7	0.659	11.23	19.10	31.59	27.40	6.85	-	3.73
162	Greenfield, . . .	Dec. 11	15.1	-	7.54	18.24	33.16	25.02	6.99	-	3.95
A 2	Lowell, . . .	Apr. 9	17.5	-	8.94	28.49	41.57	16.46	1.43	0.07	3.04
174	Lowell, . . .	Dec. 27	16.1	-	5.78	32.51	43.67	10.64	5.16	0.04	2.20
A 1	Middleboro, . . .	Apr. 18	20.8	-	10.13	24.93	33.59	22.06	4.74	-	4.55
159	Natick, . . .	Nov. 26	15.5	-	3.57	34.65	48.30	6.15	5.24	0.49	1.60
164	Natick, . . .	Dec. 31	20.4	-	13.37	21.93	30.82	23.42	2.45	-	3.01
166	North Adams, . .	May 7	21.7	0.680	14.14	18.92	31.63	30.07	2.11	0.15	2.98
A 3	Northampton, . .	Dec. 27	18.4	-	7.53	28.28	37.93	20.32	2.62	-	3.32
158	Old Colony, . . .	June 19	17.7	-	10.18	13.97	36.73	33.82	1.90	-	3.40
151	Salem, . . .	Mar. 13	-	-	9.24	23.95	39.61	21.35	2.64	-	3.11
152	Salem, . . .	Mar. 18	-	0.567	7.87	29.70	39.04	16.85	3.79	-	2.75
157	Springfield, . . .	Oct. 23	16.1*	0.535	8.71	19.00	37.02	23.71	7.14	0.36	4.06
168	Springfield, . . .	Oct. 29	17.0	-	9.64	23.09	36.87	19.26	6.43	0.37	4.34
171	Springfield, . . .	Oct. 29	16.6	-	9.07	24.24	36.53	20.30	5.39	0.67	3.80
156	Turners Falls, . .	Oct. 10	15.2	-	11.67	19.30	30.69	26.53	7.99	-	3.82
149	Vineyard Lighting, .	Feb. 8	13.1	-	9.64	16.88	33.60	23.59	2.85	-	3.44
173	Vineyard Lighting, .	Aug. 23	17.6	-	12.56	12.07	35.68	25.70	5.33	-	8.66
161	Vineyard Lighting, .	Dec. 4	11.7	-	8.69	10.98	39.58	28.68	4.57	-	7.50
160	Williamstown, . .	Dec. 11	17.5	-	11.26	15.27	35.55	32.37	2.34	-	3.21

CALORIFIC TESTS.

The following calorific tests were made during the year:—

On May 9 a test was made at Greenfield, between 2.20 and 4 p.m., with the following results: average of five tests for calorific value, 636.1 B. T. U.; the candle-power with the new F burner, 7-inch chimney, was 16.82; the analysis appears as No. 165.

Later, on October 10, a test was made at Greenfield and Turners Falls of gas made the previous day; this test was designed to show the effect, on the heating value and candle-power of the gas, of compression and transmission for a distance of about 5 miles. The gas was compressed to 20 pounds. The results are tabulated below:—

	Greenfield.	Turners Falls.
Time,	9.50 A.M.	12 noon.
Candle-power,	16.71 ND 6	15.86 ND 6
Specific gravity,	0.650	0.675
Average B. T. U. gross,	584.3	588.7
Analysis,	No. 155	No. 156

An examination was made, October 8, at Fitchburg, of gas made in vertical retorts, with the following results:—

The candle-power obtained with a Sugg's ND burner and 7-inch chimney was 14.11; the calorific value (average of fifteen determinations) was 601.6; the specific gravity, 0.402; an analysis, No. 154, appears in the table.

In continuance of a series of long tests begun in 1910 the following results were obtained at Easthampton of a coal gas enriched with benzole, at North Adams of a water gas and at Springfield of a mixed coal and water gas. At Easthampton it was necessary to use the Board's portable photometer for the candle-power determinations.

Easthampton.

TIME.			Gross B. T. U.	Candle- power.	TIME.			Gross B. T. U.	Candle- power.
Oct. 14,	4.00 P.M.,		650.9	16.49 ¹	Oct. 15,	4.30 A.M.,		645.2	16.04
	4.30 P.M.,		649.2	16.49		5.00 A.M.,		654.8	16.02
	5.00 P.M.,		662.9	16.35		5.30 A.M.,		664.0	16.56
	5.30 P.M.,		656.9	15.92		6.00 A.M.,		652.6	16.30
	6.00 P.M.,		643.8	16.00		6.30 A.M.,		647.4	15.90
	6.30 P.M.,		635.0	15.95		7.00 A.M.,		650.2	15.57
	7.00 P.M.,		631.3	16.07		7.30 A.M.,		662.3	15.43
	7.30 P.M.,		627.9	16.36		8.00 A.M.,		653.5	16.11
	8.00 P.M.,		646.2	16.28 ²		8.30 A.M.,		650.6	16.27
	8.30 P.M.,		662.1	16.01		9.00 A.M.,		649.6	16.06
	9.00 P.M.,		659.8	15.54		9.30 A.M.,		658.5	16.26
	9.30 P.M.,		657.5	15.28		10.00 A.M.,		656.5	15.74 ⁴
	10.00 P.M.,		661.2	15.13		10.30 A.M.,		655.2	15.89
	10.30 P.M.,		656.2	15.00		11.00 A.M.,		657.3	15.72
	11.00 P.M.,		658.8	16.02		11.30 A.M.,		659.3	15.64
Oct. 15,	11.30 P.M.,		652.3	16.11		12.00 A.M.,		664.1	15.40
	12.00 P.M.,		654.2	15.93		12.30 P.M.,		662.8	15.63
	12.30 A.M.,		650.6	15.91		1.00 P.M.,		656.6	15.67
	1.00 A.M.,		647.6	16.30		1.30 P.M.,		648.8	15.82
	1.30 A.M.,		652.3 ³	16.41		2.00 P.M.,		654.3	15.80
	2.00 A.M.,		651.0	16.38		2.30 P.M.,		654.6	15.80
	2.30 A.M.,		652.6	16.38		3.00 P.M.,		651.3	15.78
	3.00 A.M.,		652.9	15.90		3.30 P.M.,		654.5	16.11
	3.30 A.M.,		645.5	16.03		4.00 P.M.,		657.3	16.43
	4.00 A.M.,		644.9	16.11					

¹ The candle-power determination was made fifteen minutes after each calorific determination.
² Samples taken for analysis, No. 167.
³ Condensation per cubic foot 66.6 B. T. U.
⁴ Samples taken for analysis, No. 169.

North Adams.

TIME.	Gross B. T. U.	Candle- power.	TIME.	Gross B. T. U.	Candle- power.
May 7, 8.00 P.M.,	680.3	22.50 ¹	May 8, 10.30 A.M.,	694.1	21.70 ²
8.30 P.M.,	681.3 ³	21.95	11.00 A.M.,	679.5	22.62
9.00 P.M.,	681.9	22.32	11.30 A.M.,	690.7	22.73
9.30 P.M.,	681.4	22.25	12.00 A.M.,	695.5	22.52
10.00 P.M.,	679.3	22.46	12.30 P.M.,	690.4	21.88
10.30 P.M.,	679.6	22.26	1.00 P.M.,	700.5	22.45
11.00 P.M.,	686.3	22.88	1.30 P.M.,	691.0	22.49
11.30 P.M.,	686.7	22.58	2.00 P.M.,	687.0	22.22
12.00 P.M.,	690.0	22.61	2.30 P.M.,	695.3	21.90
May 8, 12.30 A.M.,	690.3	22.71	3.00 P.M.,	684.0	21.86
1.00 A.M.,	689.3	22.55	3.30 P.M.,	690.0	21.93
1.30 A.M.,	688.7	22.00	4.00 P.M.,	686.2	22.04
2.00 A.M.,	690.3	21.90	4.30 P.M.,	698.8	21.88
2.30 A.M.,	696.4	22.33	5.00 P.M.,	693.1	22.14
3.00 A.M.,	685.3	22.48	5.30 P.M.,	693.9	22.60
3.30 A.M.,	688.2	22.51	6.00 P.M.,	696.4	21.88
4.00 A.M.,	686.8	21.98	6.30 P.M.,	702.0	22.52
4.30 A.M.,	694.0	22.19	7.00 P.M.,	698.7	23.05
5.00 A.M.,	686.0	22.18	7.30 P.M.,	697.5	22.66
5.30 A.M.,	687.4	22.06	8.00 P.M.,	697.4	22.38
6.00 A.M.,	678.3	22.55	8.30 P.M.,	692.4	22.53
6.30 A.M.,	682.2	21.92	9.00 P.M.,	694.8	22.49
7.00 A.M.,	678.9	22.12	9.30 P.M.,	693.9	21.91
7.30 A.M.,	666.8	22.10	10.00 P.M.,	699.4 ⁴	22.47
8.00 A.M.,	682.4	22.00	10.30 P.M.,	694.8	22.66
8.30 A.M.,	685.3	21.95	11.00 P.M.,	695.0	23.62
9.00 A.M.,	688.2	22.20	11.30 P.M.,	693.4	23.41
9.30 A.M.,	693.1	22.13	12.00 P.M.,	700.5	22.35
10.00 A.M.,	697.0	22.72	May 9, 12.30 A.M.,	708.6	23.19

¹ The candle-power determination was made fifteen minutes after each calorific determination.² Condensation per cubic foot, 60.5 B. T. U.³ Sample taken for analysis, No. 166.⁴ Condensation per cubic foot, 54.4 B. T. U.

Springfield.

TIME.	Gross B. T. U.	Candle- power.	TIME.	Gross B. T. U.	Candle- power.
Oct. 28, 5.30 P.M.,	606.0	16.28 ¹	Oct. 29, 5.30 A.M.,	606.1	15.94
6.00 P.M.,	598.0	17.02	6.00 A.M.,	606.7	16.96 ⁵
6.30 P.M.,	695.7	16.50	6.30 A.M.,	604.4	16.55
7.00 P.M.,	607.8	16.67	7.00 A.M.,	608.7	15.50
7.30 P.M.,	609.5	16.71	7.30 A.M.,	610.3	15.31
8.00 P.M.,	609.3	16.39	8.00 A.M.,	615.2	15.84
8.30 P.M.,	607.1	16.07	8.30 A.M.,	611.0	15.84
9.00 P.M.,	607.1	16.15	9.00 A.M.,	614.3	15.98
9.30 P.M.,	605.3	16.07 ²	9.30 A.M.,	618.8	16.26
10.00 P.M.,	611.3	15.46	10.00 A.M.,	627.1	16.54
10.30 P.M.,	595.0 ³	15.86	10.30 A.M.,	632.0	15.93
11.00 P.M.,	603.7	15.44	11.00 A.M.,	620.6	15.93
11.30 P.M.,	605.8	15.08	11.30 A.M.,	624.9	16.20
12.00 P.M.,	597.7	15.29	12.00 A.M.,	627.7	16.76
Oct. 29, 12.30 A.M.,	604.1	14.56	12.30 P.M.,	628.7	16.76
1.00 A.M.,	601.5	14.58	1.00 P.M.,	630.4	16.56
1.30 A.M.,	599.8	14.46	1.30 P.M.,	629.7	16.72
2.00 A.M.,	600.3 ⁴	14.51	2.00 P.M.,	635.4	16.82
2.30 A.M.,	601.5	14.49	2.30 P.M.,	638.9	16.82
3.00 A.M.,	598.5	14.61	3.00 P.M.,	633.0	16.43
3.30 A.M.,	599.7	14.59	3.30 P.M.,	632.9	16.71
4.00 A.M.,	601.7	15.06	4.00 P.M.,	639.1	16.64 ⁶
4.30 A.M.,	562.4	15.13	4.30 P.M.,	643.9	16.60
5.00 A.M.,	595.4	15.18	5.00 P.M.,	636.0	16.54

¹ The candle-power determination was made fifteen minutes after each calorific determination.² Samples taken for analysis, No. 157.³ Condensation per cubic foot, 50.2.⁴ Condensation per cubic foot, 49.6.⁵ Samples taken for analysis, No. 168.⁶ Samples taken for analysis, No. 171.

Summary of Results.

	NORTH ADAMS, MAY 7-9, 1912.		EASTHAMPTON, OCT. 14, 15, 1912.		SPRINGFIELD, OCT. 28, 29, 1912.	
	Gross B. T. U.	Candle- power.	Gross B. T. U.	Candle- power.	Gross B. T. U.	Candle- power.
Average,	689.90	22.35	652.70	15.97	612.71	15.94
Highest,	708.60	23.62	664.10	16.56	643.90	17.02
Per cent. variation from average,	2.71	5.70	1.75	3.69	5.09	6.78
Lowest,	666.80	21.70	627.90	15.00	562.40	14.46
Per cent. variation from average,	3.35	2.91	3.81	6.07	8.21	9.28
Per cent. total variation from average,	6.06	8.61	5.55	9.76	13.30	16.06

A study of the inspections of the companies made during the five years from 1908 to 1912, inclusive, shows the following facts: —

	1908.	1909.	1910.	1911.	1912.
Number of inspections made,	1,018	929	890	899	876
Number of companies subject to inspection,	68	68	68	68	68
Number of companies showing deficiency in candle-power,	16	15	25	19	20
Highest candle-power, not including oil-gas and acetylene-gas companies,	24.7	26.9	27.7	28.4	24.4
Lowest candle-power, not including oil-gas and acetylene-gas companies,	12.3	12.8	10.6	12.9	11.7
Average candle-power, not including oil-gas and acetylene-gas companies,	18.01	18.30	18.00	18.26	18.46
Average candle-powers: —					
Coal gas, 17 companies,	16.92	17.11	16.89	16.88	17.04
Water gas, 19 companies,	20.30	20.66	20.18	20.00	19.62
Mixed coal and water gas, 27 companies,	17.67	18.23	17.89	17.99	18.34
Number of companies showing sulphuretted hydrogen,	11	15	14	22	22
Number of companies showing excess of sulphur,	29	—	1	7	13
First six months,	—	20	—	—	—
Second six months,	—	2	—	—	—
Number of companies showing excess of ammonia,	4	6	3	6	7
Largest amount of sulphur,	38.9	31.3	32.6	48.2	58.0
Smallest amount of sulphur,	5.0	3.0	3.2	4.5	3.6
Average amount of sulphur,	14.11	13.86	13.92	14.26	15.35
First six months,	—	14.75	—	—	—
Second six months,	—	13.48	—	—	—
Largest amount of ammonia,	17.4	16.3	19.2	19.2	20.6
Smallest amount of ammonia,	1.—	1.—	1.—	1.—	1.—
Average amount of ammonia,	1.43	1.—	1.17	1.20	1.28
Oil-gas companies: —					
	1908.	1909.	1910.	1911.	1912.
Highest candle-power,	49.6	46.8	45.2	39.6	46.0
Lowest candle-power,	20.4	19.8	18.0	32.5	31.5
Average candle-power,	33.18	29.33	20.94	30.79	37.77
Number showing sulphuretted hydrogen,	3	2	3	2	—

Gas Meter Inspection.

From Nov. 30, 1911, to Nov. 30, 1912, inclusive, there were 90,791 meters inspected, including 28,328 prepayment meters, as compared with 86,730 during the preceding twelve months. Meters which pass inspection are stamped with a brass badge and a wax seal, which give the inspection number and date. These are so placed that the rate of registration cannot be changed unless both are mutilated. Whenever meters are opened for any purpose, they must be again tested and sealed before being placed in use by the company. Of the meters examined in the year ending Nov. 30, 1912, 446 were known as complaint meters; the others being new, or recently repaired. The following table exhibits a comparison of the number inspected annually during five years:—

	1908.	1909.	1910.	1911.	1912.
Complaint meters, .	438	415	328	457	446
Total number, . .	58,875	73,994	82,643	86,730	90,791

Four meter provers and 4 experimental wet meters for photometric use were calibrated during the year.

COMPLAINT METERS.

Of complaint meters, 446 were inspected during the year ending Nov. 30, 1912, as compared with 457 in the preceding year ending Nov. 30, 1911. Of these, 6 would pass gas, but would not register. The average error of the remaining 440 meters was 1.26 per cent. fast; 175, or 39.77 per cent., were fast, the average error being 4.6 per cent.; 40, or 9.09 per cent., were slow, the average error being 8.33 per cent.; 225, or 51.14 per cent., were correct within the legal limits, being no more than 2 per cent. fast or slow.

Of the fast meters, 139 registered between 2 and 5 per cent., 33 between 5 and 10 per cent., 2 between 10 and 15 per cent., and 1, 19 per cent. fast. Of the slow meters, 27 registered between 2 and 5 per cent., 8 between 5 and 10 per cent., 1 was 13 per cent., 1, 16 per cent., 1, 40 per cent., 1, 50 per cent., and 1, 60 per cent. slow.

A more detailed statement of the meter-testing work appears in the following financial statement for the year ending Nov. 30, 1912:—

NUMBER OF EACH SIZE, AND FEES FOR TESTING METERS.

Number.	Size.	Fees.
27,474,	3-lights,	at 25 cents, . \$21,181 25
57,251,	5-lights,	
3,674,	ts,	at 30 cents, . 1,741 80
1,171,	ts,	
640,	ts,	
38,	ts,	
236,	ts,	
47,	ts,	at 50 cents, . 81 50
55,	ts,	
108,	ts,	at 90 cents, . 29 70
33,	ts,	
31,	ts, at \$1.25,	38 75
13,	ts, at \$1.50,	19 50
12,	ts, at \$1.70,	20 40
2,	ts, at \$2.00,	4 00
6,	ts, at \$2.50,	15 00
		<hr/> \$23,131 90
4,	photometer meters, at \$2,	8 00
1,	2-foot meter prover, at \$5,	5 00
3,	5-foot meter provers, at \$6.50,	19 50
		<hr/> \$23,164 40

90,738

OPERATING ACCOUNTS.

Income, 90,738 meters, 4 photometer meters and 4 meter provers,	\$23,164 40
Expenses, including salaries of gas and gas meter inspectors,	14,988 26
Balance,	<hr/> \$8,176 14

CASH ACCOUNT.

Received for meters, etc., tested,	\$23,164 40
Fees advanced for 3 meters not tested,	75
Received for interest on bank balances,	16 87
	<hr/> \$23,182 02
Paid treasurer:—	
December, 1911,	\$1,791 48
January, 1912,	1,557 37
February, 1912,	1,396 40
March, 1912,	1,667 35
April, 1912,	2,107 40
May, 1912,	2,184 55
June, 1912,	1,832 45
July, 1912,	2,028 30
August, 1912,	2,424 65
September, 1912,	1,845 42
October, 1912,	2,128 74
November, 1912,	2,217 91
	<hr/> \$23,182 02

TESTING OF ELECTRIC METERS.

The testing of electric meters upon the request of customers or companies, under authority of sections 36 and 37 of chapter 121 of the Revised Laws, has been continued with the same regulations and the same expert assistance as heretofore. The following table exhibits a comparison of the number inspected during the years that the law has been in force:—

1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
6 ¹	8	29	67	50	36	29 ²	35	42	33	52	39

¹ For six months.

² To November 30.

The results of the inspections during the year ending Nov. 30, 1912, are shown in the following table: —

IN- SPECTION NUMBER.	Capacity of Meter (Amperes).	AT ONE-FIFTH LOAD.		AT ONE-HALF LOAD.		AT FULL LOAD.	
		Per Cent. Fast.	Per Cent. Slow.	Per Cent. Fast.	Per Cent. Slow.	Per Cent. Fast.	Per Cent. Slow.
396, . . .	5	—	1.8	—	.5	.6	—
399, . . .	5	2.0	—	1.7	—	2.3	—
401, . . .	5	—	1.0	.7	—	.5	—
414, . . .	5	.6	—	—	.1	—	.1
422, . . .	5	3.3	—	1.3	—	3.0	—
428, . . .	5	—	1.7	.3	—	—	.1
415, . . .	7 ¹	—	.9	2.6	—	2.7	—
426, . . .	7 ¹	—	9.8	—	9.3	—	9.8
427, . . .	7 ¹	.9	—	4.3	—	4.4	—
390, . . .	10	—	3.4	—	1.0	—	.7
398, . . .	10	— ¹	— ¹	— ¹	— ¹	.5	—
402, . . .	10	4.3	—	2.9	—	2.9	—
403, . . .	10	—	1.9	—	.8	—	.9
408, . . .	10	—	2.3	—	2.3	—	2.3
418, . . .	10	.7	—	.8	—	—	.8
420, . . .	10	—	.3	— ²	— ²	— ²	— ²
424, . . .	10	.3	—	1.5	—	.2	—
400, . . .	15	— ¹	— ¹	— ¹	— ¹	—	.1
404, . . .	15	.9	—	1.2	—	1.7	—
416, . . .	15	—	3.6	—	.9	—	2.7
417, . . .	15	—	3.7	—	.5	—	.4
419, . . .	15	4.0	—	3.9	—	2.4	—
405, . . .	25	—	1.3	1.2	—	.8	—
423, . . .	25	— ³	—	—	—	1.6	—
397, . . .	50	— ¹	— ¹	— ¹	— ¹	—	.8
406, . . .	50	.5	—	1.0	—	1.9	—
407, . . .	50	— ⁴	— ⁴	— ⁴	— ⁴	4.8	—
411, . . .	75	—	1.7	—	2.5	—	2.7
412, . . .	100	— ⁵	.2	.2	—	.1	—
421, . . .	100	—	5.3	—	1.5	.3	—
409, . . .	150	—	.7	—	.8	—	1.0
410, . . .	150	— ⁵	.8	—	.3	.1 ⁶	—
425, . . .	150	1.2	—	2.7	—	1.4	—
395, . . .	300	— ⁵	— ⁵	— ⁵	— ⁵	—	{ 14.5 ⁷ 2.7 ⁸
413, . . .	300	—	1.1	—	.7 ⁹	—	—
391, . . .	600	— ¹	— ¹	— ¹	— ¹	1.1	—
394, . . .	1,200	— ¹	— ¹	— ¹	— ¹	1.7	—
392, . . .	2,000	— ¹	— ¹	— ¹	— ¹	—	1.8
393, . . .	2,000	— ¹	— ¹	— ¹	— ¹	1.4	—

¹ Power meter, tested under running conditions.
² Correct.
³ Motor meter, tested under ordinary load.
⁴ Power meter, tested under heavy load.
⁵ Power meter.

⁶ Largest obtainable load.
⁷ Tested on a low load.
⁸ Tested on a high load.
⁹ Tested on lowest obtainable load.

All fees received during the year from applicants for meters, amounting to \$132, have been paid to the Treasurer of the Commonwealth. The services and expenses of the inspector for the year amounted to \$254.05, being \$122.05 above the amount received for fees. The Board has also expended during the year for other expenses for this work \$10.85. Inspections Nos. 390, 399, 422 and 424 were made upon the request and at the initial expense of the companies.

VIOLETIONS OF LAW.

The following cases of violations of the statutes have occurred since the last annual report: by the Chester Electric Light Company, and the municipalities of Belmont, Ipswich, Mansfield, Middleborough, Rowley, Taunton, West Boylston and Westfield, in neglecting to make their annual returns to the Board within the time required by law; by the Athol Gas and Electric Company, the Gardner Gas, Fuel and Light Company and the Vineyard Lighting Company, in distributing gas containing sulphuretted hydrogen; by the Beverly Gas and Electric Company and the Natick Gas Light Company, in distributing gas containing more than thirty grains of sulphur.

ACCIDENTS.

The abstracts of accidents caused by the gas or electricity manufactured or supplied by companies, persons and municipalities engaged in the manufacture and sale of gas or electricity for light or fuel, whereby employees or other persons have been injured, killed or rendered insensible, will be found in Appendix G. Of those caused by gas, 202 were fatal and 260 non-fatal; 84 of the fatal appear to have been suicides and 48 of the non-fatal were apparently due to suicidal intent. Of the accidents caused by electricity, 17 were fatal and 58 non-fatal. Of the fatal accidents caused by gas, 1, and of the non-fatal cases, 14 were employees of the companies. Eight of the fatal electric accidents and 32 of the non-fatal cases were employees of the companies.

CASES PENDING BEFORE THE BOARD.

Appeal of the Ayer Electric Light Company from a decision of the board of selectmen of Ayer in favor of the Connecticut River Transmission Company.

Petition of the Worcester County Gas Company for approval of an issue of new capital stock.

Petition of the Fall River Electric Light Company for approval of an issue of new capital stock.

Petition of the Boston Consolidated Gas Company for approval of application of proceeds from the sale of certain land.

Petition of selectmen of Attleborough against the Attleboro Gas Light Company Corporation for reduction in the price of gas.

Petition of consumers against the Edison Electric Illuminating Company of Brockton for reduction in the price of electricity.

Petition of consumers against the Electric Light and Power Company of Abington and Rockland for reduction in price of electricity.

Petition of the Hyannis Gas Company for approval of an issue of new capital stock.

Petition of selectmen of Framingham against the Framingham Gas, Fuel and Power Company for reduction in price of gas.

Petition of the Natick Gas Light Company for approval of an issue of new capital stock.

Petition of the West Boston Gas Company for approval of an issue of new capital stock.

Petition of consumers against the Dedham and Hyde Park Gas and Electric Light Company for reduction in the price of gas.

Petition of the Belchertown Electric Company for approval of an issue of new capital stock.

Petition of the mayor of Northampton against the Northampton Gas Light Company for reduction in the price of gas.

Petition of the mayor of Northampton against the Northampton Electric Lighting Company for reduction in the price of electricity.

Petition of the Barnstable Electric Company for approval of an issue of new capital stock.

Appeal of the Buzzards Bay Electric Company from a decision of the selectmen of Barnstable in favor of the Barnstable Electric Company.

Petition of the New Bedford Gas and Edison Light Company for authority to extend its business into the town of Dartmouth.

Petition of the Old Colony Gas Company for approval of an issue of new capital stock.

Petition of the Lynn Gas and Electric Company for authority to extend its business into the town of Lynnfield.

Petition of the Gardner Electric Light Company for approval of an issue of new capital stock.

Petition of the Amherst Gas Company for approval of an issue of new capital stock.

Petition of the mayor of Cambridge against the Cambridge Electric Light Company for reduction in the price of electricity.

Petition of the Worcester Electric Light Company for approval of an issue of new capital stock.

Petition of the mayor of Newburyport against the Newburyport Gas and Electric Company for reduction in the price of gas and electricity.

Petition of the selectmen of Rockland against the Electric Light and Power Company of Abington and Rockland for reduction in the price of street lights.

Petition of the Boston Consolidated Gas Company for approval of contract to supply gas to the East Boston Gas Company.

Petition of the Plymouth Gas Light Company for approval of an issue of new capital stock.

Petition of consumers against the Lawrence Gas Company for a reduction in the price of gas.

Appeal of the Central Massachusetts Electric Company from a decision of the selectmen of Palmer in favor of the Warren Power Company.

Appeal of the Central Massachusetts Electric Company from a decision of the selectmen of Enfield in favor of the Connecticut River Transmission Company.

Petition of the Buzzards Bay Electric Company for authority to manufacture and sell gas in the town of Barnstable.

Petition of the Cambridge Electric Light Company for approval of an issue of new capital stock.

Petition of the Weymouth Light and Power Company for approval of an issue of new capital stock.

Petition of the Harvard Gas and Electric Company for approval of an issue of new capital stock.

Petition of the Leominster Electric Light and Power Company for approval of an issue of new capital stock.

Petition of the Leominster Gas Light Company for approval of an issue of new capital stock.

Petition of the North Adams Gas Light Company for approval of an issue of new capital stock.

Appeal of the United Electric Light Company from the decision of the selectmen of West Springfield in favor of the Warren Power Company.

Appeal of the Central Massachusetts Electric Company from the decision of the selectmen of Ludlow in favor of the Warren Power Company.

Appeal of the Ludlow Manufacturing Company from the decision of the selectmen of Ludlow in favor of the Warren Power Company.

Petition of municipal light board of Westfield for approval of certain prices for gas and electricity to be supplied to consumers.

Appeal of the Ware Electric Company from the decision of the selectmen of Ware in favor of the Connecticut River Transmission Company.

Respectfully submitted,

FORREST E. BARKER,
MORRIS SCHAFF,
ALONZO R. WEED,

Commissioners.

APPENDICES.

APPENDIX A.—OFFICERS OF COMPANIES.

In accordance with the provisions of section 7 of chapter 121 of the Revised Laws, as amended by chapter 293 of the Acts of 1911, the Board herewith presents the names and addresses of the principal officers and directors of the companies which are engaged in the manufacture and sale of gas or electricity for light or heat from the returns made as of June 30, 1912:—

THE ELECTRIC LIGHT AND POWER COMPANY OF ABINGTON AND ROCKLAND.

PRINCIPAL OFFICERS.

A. Stuart Pratt, *President*, West Newton, Mass. Frederick S. Pratt, *Vice-President*, West Newton, Mass. Henry B. Sawyer, *Treasurer*, Brookline, Mass. J. T. G. Nichols, *Assistant Treasurer*, Newburyport, Mass. William T. Crawford, *Clerk*, Dedham, Mass.

DIRECTORS.

Henry G. Bradlee, Brookline, Mass. Joseph L. Greenwood, North Abington, Mass. J. W. Hallowell, Milton, Mass. Lot Phillips, West Hanover, Mass. A. Stuart Pratt, West Newton, Mass. Frederick S. Pratt, West Newton, Mass. Dwight P. Robinson, Brookline, Mass. James W. Spence, Rockland, Mass. Charles F. Wallace, Brookline, Mass.

ADAMS GAS LIGHT COMPANY.

PRINCIPAL OFFICERS.

Alfred Clarke, *President*, Walpole, N. H. Arthur E. Childs, *Vice-President*, Harrisville, N. H. George F. Howland, *Treasurer*, Auburndale, Mass. George F. Howland, *Clerk*, Auburndale, Mass.

DIRECTORS.

Alfred Clarke, Walpole, N. H. Arthur E. Childs, Harrisville, N. H. Addis M. Whitney, Swampscott, Mass. George F. Howland, Auburndale, Mass. C. N. Burnell, Winthrop, Mass.

AMERICAN WOOLEN COMPANY.

PRINCIPAL OFFICERS.

William M. Wood, *President*, Andover, Mass. Frederick Ayer, *Vice-President*, Beverly, Mass. William H. Dwelly, Jr., *Treasurer*, Brookline, Mass. William H. Dwelly, Jr., *Clerk*, Brookline, Mass.

DIRECTORS.

William M. Wood, Andover, Mass. Frederick Ayer, Beverly, Mass. John Hogg, Boston, Mass. George E. Bullard, Boston, Mass. Andrew G. Pierce, New Bedford, Mass. Francis W. Kitteridge, Boston, Mass. J. Clifford Woodhull, Summit, N. J. George L. Shepley, Providence, R. I. Charles H. Tenney, New York, N. Y.

AMESBURY ELECTRIC LIGHT COMPANY.

PRINCIPAL OFFICERS.

Jacob F. Spalding, *President*, Salisbury, Mass. Benjamin F. Sargent, *Treasurer*, Amesbury, Mass. Benjamin F. Sargent, *Clerk*, Amesbury, Mass.

DIRECTORS.

Jacob F. Spalding, Salisbury, Mass. Benjamin F. Sargent, Amesbury, Mass. Harland A. Sawyer, Amesbury, Mass. George E. Collins, Amesbury, Mass. John Currier, Amesbury, Mass. A. C. Webster, Amesbury, Mass. E. H. Mather, Boston, Mass.

AMESBURY AND SALISBURY GAS COMPANY.

PRINCIPAL OFFICERS.

Charles W. Morse, *President*, Haverhill, Mass. John Cashman, *Treasurer*, Haverhill, Mass. John Cashman, *Clerk*, Haverhill, Mass.

DIRECTORS.

Charles W. Morse, Haverhill, Mass. John Cashman, Haverhill, Mass. David Cashman, Haverhill, Mass.

AMHERST GAS COMPANY.

PRINCIPAL OFFICERS.

Philip Cabot, *President*, Boston, Mass. Henry S. Thompson, *Vice-President*, Concord, Mass. Henry S. Thompson, *Treasurer*, Concord, Mass. Lester E. Flint, *Assistant Treasurer*, Somerville, Mass. Lester E. Flint, *Clerk*, Somerville, Mass.

DIRECTORS.

David Barry, Newton, Mass. Philip Cabot, Boston, Mass. Lester E. Flint, Somerville, Mass. Henry S. Thompson, Concord, Mass. Joseph W. Stevens, Greenfield, Mass.

ARLINGTON GAS LIGHT COMPANY.

PRINCIPAL OFFICERS.

Alfred Clarke, *President*, Walpole, N. H. Arthur E. Childs, *Vice-President*, Harrisville, N. H. George F. Howland, *Treasurer*, Auburndale, Mass. George F. Howland, *Clerk*, Auburndale, Mass.

DIRECTORS.

Alfred Clarke, Walpole, N. H. Arthur E. Childs, Harrisville, N. H. Addis M. Whitney, Swampscott, Mass. George F. Howland, Auburndale, Mass. C. N. Burnell, Winthrop, Mass.

ATHOL GAS AND ELECTRIC COMPANY.

PRINCIPAL OFFICERS.

Josiah Q. Bennett, *President*, Cambridge, Mass. Elihu G. Loomis, *Vice-President*, Bedford, Mass. Paul B. Webber, *Treasurer*, Bedford, Mass. Edward C. Mason, *Clerk*, Bedford, Mass.

DIRECTORS.

Josiah Q. Bennett, Cambridge, Mass. Alonzo P. Weeks, Winchester, Mass. Elihu G. Loomis, Bedford, Mass. Bowen Tufts, Arlington, Mass. Paul B. Webber, Bedford, Mass. Edward C. Mason, Bedford, Mass. M. Bernard Webber, Bedford, Mass.

ATTLEBORO GAS LIGHT COMPANY CORPORATION.

PRINCIPAL OFFICERS.

Everett S. Capron, *President*, Attleborough, Mass. Albert W. Sturdy, *Vice-President*, Attleborough, Mass. Albert W. Sturdy, *Treasurer*, Attleborough, Mass. William J. Luther, *Clerk*, Attleborough, Mass.

DIRECTORS.

Everett S. Capron, Attleborough, Mass. Albert W. Sturdy, Attleborough, Mass. Clarence L. Watson, Attleborough, Mass. James E. Blake, Attleborough, Mass. Harold E. Sweet, Attleborough, Mass. Frederick G. Mason, Attleborough, Mass. William J. Luther, Attleborough, Mass.

ATTLEBOROUGH STEAM AND ELECTRIC COMPANY.

PRINCIPAL OFFICERS.

John Joyce, *President*, Andover, Mass. Maurice J. Curran, *Vice-President*, Andover, Mass. Vincent Goldthwaite, *Treasurer*, Wellesley, Mass. Vincent Goldthwaite, *Clerk*, Wellesley, Mass.

DIRECTORS.

John Joyce, Andover, Mass. Maurice J. Curran, Andover, Mass. Vincent Goldthwaite, Wellesley, Mass. Frank J. Fahey, Andover, Mass. James R. Nicholson, Boston, Mass.

AYER ELECTRIC LIGHT COMPANY.

PRINCIPAL OFFICERS.

Alfred Clarke, *President*, Walpole, N. H. Arthur E. Childs, *Vice-President*, Harrisville, N. H. George F. Howland, *Treasurer*, Auburndale, Mass. George F. Howland, *Clerk*, Auburndale, Mass.

DIRECTORS.

Alfred Clarke, Walpole, N. H. Arthur E. Childs, Harrisville, N. H. Addis M. Whitney, Swampscott, Mass. George F. Howland, Auburndale, Mass. C. N. Burnell, Winthrop, Mass.

BARRE ACETYLENE GAS COMPANY.

PRINCIPAL OFFICERS.

C. F. Atwood, *President*, Barre, Mass. George P. King, *Vice-President*, Barre, Mass. G. Warren Cox, *Treasurer*, Barre, Mass. G. Warren Cox, *Clerk*, Barre, Mass.

DIRECTORS.

C. F. Atwood, Barre, Mass. George P. King, Barre, Mass. G. Warren Cox, Barre, Mass. T. H. White, Adm., Barre, Mass.

BERNARDSTON ACETYLENE LIGHT COMPANY.

PRINCIPAL OFFICERS.

John W. Chapin, *President*, Bernardston, Mass. E. C. Eames, *Vice-President*, Los Angeles, Cal. F. W. Jennings, *Treasurer*, Framingham, Mass. E. C. Eames, *Clerk*, Los Angeles, Cal.

DIRECTORS.

John W. Chapin, Bernardston, Mass. John E. Davis, Bernardston, Mass. E. C. Eames, Los Angeles, Cal. R. J. Boynton, Framingham, Mass. F. W. Jennings, Framingham, Mass.

BEVERLY GAS AND ELECTRIC COMPANY.

PRINCIPAL OFFICERS.

Sidney W. Winslow, *President*, Orleans, Mass. Andrew W. Rogers, *Treasurer*, Beverly, Mass. Andrew W. Rogers, *Clerk*, Beverly, Mass.

DIRECTORS.

Sidney W. Winslow, Orleans, Mass. Sidney W. Winslow, Jr., Beverly, Mass. Herbert F. Winslow, Beverly, Mass. Andrew W. Rogers, Beverly, Mass. Charles R. Prichard, Beverly, Mass. Charles F. Prichard, Lynn, Mass.

THE BLACKSTONE ELECTRIC LIGHT COMPANY.

PRINCIPAL OFFICERS.

Frederick P. Royce, *President*, Dedham, Mass. Guy L. Weymouth, *Vice-President*, Belmont, Mass. Henry B. Sawyer, *Treasurer*, Brookline, Mass. J. T. G. Nichols, *Assistant Treasurer*, Newburyport, Mass. William T. Crawford, *Clerk*, Dedham, Mass.

DIRECTORS.

William T. Crawford, Dedham, Mass. Frederick P. Royce, Dedham, Mass. Henry B. Sawyer, Brookline, Mass.

BLOCK PLANT ELECTRIC LIGHT COMPANY.

PRINCIPAL OFFICERS.

Sanford E. Boyden, *President*, Boston, Mass. M. J. Manning, *Treasurer*, Boston, Mass. Charles H. Adams, *Clerk*, Melrose, Mass.

DIRECTORS.

Sanford E. Boyden, Boston, Mass. M. J. Manning, Boston, Mass. Chas. H. Adams, Melrose, Mass.

BOSTON CONSOLIDATED GAS COMPANY.

PRINCIPAL OFFICERS.

James L. Richards, *President*, Newtonville, Mass. W. A. Wood, *First Vice-President*, Boston, Mass. E. N. Wrightington, *Second Vice-President and Secretary*, Brookline, Mass. Robert Grant, *Treasurer*, Needham, Mass. Henry C. French, *Assistant Treasurer*, West Newton, Mass. Edward Page, *Clerk*, Newtonville, Mass. Robert Winsor, *Chairman Executive Committee*, Weston, Mass.

DIRECTORS.

Chas. F. Adams, 2d, Boston, Mass. S. Reed Anthony, Boston, Mass. Walter C. Baylies, Boston, Mass. Samuel Carr, Boston, Mass. Neal Rantoul, Boston, Mass. James L. Richards, Newtonville, Mass. Joseph B. Russell, Boston, Mass. Chas. G. Smith, Brookline, Mass. Frederic E. Snow, Boston, Mass. Chas. A. Stone, Newton, Mass. William S. Spaulding, Boston, Mass. J. N. Spear, Boston, Mass. C. Minot Weld, Readville, Mass. Robert Winsor, Weston, Mass.

BROCKTON GAS LIGHT COMPANY.

PRINCIPAL OFFICERS.

Marcus Beebe, *President*, Boston, Mass. Charles F. Prichard, *Vice-President*, Lynn, Mass. Micajah P. Clough, *Treasurer*, Boston, Mass. Charles F. Prichard, *Clerk*, Lynn, Mass.

DIRECTORS.

Marcus Beebe, Boston, Mass. Micajah P. Clough, Boston, Mass. Charles F. Prichard, Lynn, Mass. C. S. Purinton, Boston, Mass. J. S. Bartlett, Boston, Mass. Benjamin N. Johnson, Boston, Mass.

BUZZARDS BAY ELECTRIC COMPANY.

PRINCIPAL OFFICERS.

Allen A. Brown, *President*, Boston, Mass. Arthur K. Brown, *Vice-President*, Boston, Mass. Eugene Carpenter, *Treasurer*, Oak Bluffs, Mass. Eugene Carpenter, *Clerk*, Oak Bluffs, Mass.

DIRECTORS.

Allen A. Brown, Boston, Mass. Arthur K. Brown, Boston, Mass. Eugene Carpenter, Oak Bluffs, Mass.

CAMBRIDGE ELECTRIC LIGHT COMPANY.

PRINCIPAL OFFICERS.

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Philip Cabot, *President*, Boston, Mass. Henry S. Thompson, *Vice-President*, Concord, Mass. Henry S. Thompson, *Treasurer*, Concord, Mass. Lester E. Flint, *Clerk*, Somerville, Mass.

DIRECTORS.

Winfield S. Schuster, East Douglas, Mass. W. A. L. Bazeley, Uxbridge, Mass. Harold J. Coolidge, Boston, Mass. Charles S. Davis, Plymouth, Mass. Richard W. Hale, Dover, Mass. Henry S. Thompson, Concord, Mass. Philip Cabot, Boston, Mass. Lester E. Flint, Somerville, Mass.

APPENDIX B—COMPANIES.

**BALANCE SHEETS, MANUFACTURING AND PROFIT AND LOSS
ACCOUNTS TO JUNE 30, 1912.**

[From the returns made, as corrected by the Board.]

For localities supplied see pages 122 and 136.

**THE ELECTRIC LIGHT AND POWER COMPANY OF ABINGTON
AND ROCKLAND.**

ASSETS.

Real estate,	\$30,569 74
Steam plant,	30,077 37
Electric plant,	45,160 88
Electric lines,	122,412 11
Transformers,	20,347 15
Meters,	29,992 31
Arc lamps,	1,767 97
Due for electricity,	9,709 65
Fuel on hand,	1,091 59
Carbons on hand,	19 50
Incandescent lamps on hand,	2,300 00
Other materials on hand,	11,673 79
Motors on hand,	10,925 63
Fixtures, tools, etc., on hand,	320 00
Automobiles,	401 70
Sundry accounts due the company,	5,290 45
Office furniture,	358 50
Cash on hand,	11,067 47
Notes receivable,	90 00
Insurance,	1,240 36
Taxes prepaid,	33 04
Investments,	2,293 60
Total assets, as per books of the company,	\$337,142 81

LIABILITIES.

Capital stock,	\$189,000 00
Bonds issued,	45,000 00
Unpaid bills,	7,777 10
Deposits,	380 00
Premium on capital stock,	27,000 00
Interest accrued but not due,	312 50
Reserved fund,	1,615 53
Depreciation fund,	35,000 00
Amounts due from the company, not included above,	2,966 97
Total liabilities, as per books of the company,	\$309,052 10
Profit and loss balance,	28,090 71
	\$337,142 81

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$2,307 70	
For current bought,	32,812 50	
distribution,	27,315 89	
management,	19,441 97	
taxes,	5,265 70	
incidentals,	883 70	
	<hr/>	
	\$88,027 46	
Income from sale of electricity,		\$109,184 43
other sources,		733 52
Balance to profit and loss,	21,890 49	
	<hr/>	<hr/>
	\$109,917 95	\$109,917 95

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$23,424 77
Balance of manufacturing account,		21,890 49
Interest received,		143 95
Rents,		189 47
Interest paid,	\$2,250 00	
Dividends declared,	15,120 00	
Other items,	187 97	
Balance June 30, 1912,	28,090 71	
	<hr/>	<hr/>
	\$45,648 68	\$45,648 68

ADAMS GAS LIGHT COMPANY.

ASSETS.

Real estate (gas),	\$8,679 46
Machinery and manufacturing appliances (gas),	3,986 40
Street mains (gas),	24,921 89
Services (gas),	16,202 45
Meters (gas),	10,538 83
Due for gas,	1,984 55
Gas fixtures, tools, etc., on hand,	1,314 12
Electric lines,	30,659 10
Transformers,	7,101 49
Meters (electric),	6,751 21
Arc lamps,	3,607 73
Due for electricity,	2,617 17
Carbons on hand,	19 21
Incandescent lamps on hand,	160 65
Other electric materials on hand,	17 12
Motors on hand,	1,385 44
Electric fixtures, tools, etc., on hand,	199 76
Horses, wagons, etc.,	227 50
Sundry accounts due the company,	776 80
Office furniture,	1,752 29
Cash on hand,	2,486 11
Investments,	1,000 00
	<hr/>
Total assets, as per books of the company,	\$126,389 28

LIABILITIES.

Capital stock,	\$60,000 00
Notes payable,	25,900 00
Unpaid bills,	3,678 81
Deposits,	359 99
Unpaid dividends,	1,800 00
Premium on capital stock,	3,416 00
Reserved fund,	14,901 29
Depreciation fund,	9,703 00
Amounts due from the company, not included above,	710 31
<hr/>	
Total liabilities, as per books of the company,	\$120,469 40
Profit and loss balance,	5,919 88
<hr/>	
	\$126,389 28

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
For gas bought,	\$11,751 57	
distribution,	4,099 10	
management,	2,633 24	
taxes,	625 56	
incidentals,	336 96	
	<hr/>	
	\$19,446 43	
Operating expenses (electric):		
At station,	\$9 61	
For current bought,	7,539 36	
distribution,	4,394 87	
management,	3,459 58	
taxes,	641 52	
incidentals,	332 19	
	<hr/>	
	16,377 13	
Income from sale of gas,		\$19,116 91
sale of electricity,		26,015 46
Balance to profit and loss,		
Gas,		329 52
Electric,	9,638 33	
	<hr/>	<hr/>
	\$45,461 89	\$45,461 89

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$7,392 23
Balance of gas manufacturing account,	\$329 52	
Balance of electric manufacturing account,		9,638 33
Rents,		137 00
Interest paid,	1,547 50	
Dividends declared,	7,200 00	
Other items,	2,170 66	
Balance June 30, 1912,	5,919 88	
	<hr/>	<hr/>
	\$17,167 56	\$17,167 56

ADAMS, U. S.

(Townsend.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$1,057 59	
For distribution,	67 16	
management,	72 00	
taxes,	33 88	
	<hr/>	
	\$1,230 63	
Income from sale of electricity,		\$2,520 73
other sources,		11 65
Balance to profit and loss,	1,301 75	
	<hr/>	<hr/>
	\$2,532 38	\$2,532 38

AMERICAN WOOLEN COMPANY.

(Maynard.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$5,954 00	
For distribution,	2,768 39	
management,	1,666 80	
taxes,	393 68	
incidentals,	2,108 60	
	<hr/>	
	\$12,891 47	
Income from sale of electricity,		\$16,127 98
other sources,		1,041 82
Balance to profit and loss,	4,278 33	
	<hr/>	<hr/>
	\$17,169 80	\$17,169 80

AMESBURY ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$25,570 14
Steam plant,	44,331 40
Electric plant,	36,687 37
Electric lines,	26,542 48
Transformers,	7,678 45
Meters,	6,648 92
Arc lamps,	360 00
Due for electricity,	5,922 77
Fuel on hand,	1,562 50
Carbons on hand,	38 75
Incandescent lamps on hand,	86 00
Other materials on hand,	1,315 73
Motors on hand,	225 00
Automobile,	1,080 16
Sundry accounts due the company,	2,649 13
Office furniture,	868 96
Cash on hand,	2,869 24
Insurance,	417 14
	<hr/>
Total assets, as per books of the company,	\$164,854 14

LIABILITIES.

Capital stock,	\$70,300 00
Bonds issued,	70,000 00
Unpaid bills,	810 95
Interest accrued but not due,	291 67
Total liabilities, as per books of the company,	<u>\$141,402 62</u>
Profit and loss balance,	23,451 52
	<u>\$164,854 14</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$13,694 52	
For current bought,	1,023 74	
distribution,	4,056 22	
management,	2,563 22	
taxes,	1,330 50	
incidentals,	1,721 12	
	<u>\$24,389 32</u>	
Income from sale of electricity,		\$47,189 87
other sources,		1,078 75
Balance to profit and loss,	23,879 30	
	<u>\$48,268 62</u>	<u>\$48,268 62</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$19,626 16
Balance of manufacturing account,		23,879 30
Other items of income,		111 41
Interest paid,	\$3,600 35	
Dividends declared,	3,690 75	
Depreciation,	12,804 37	
Other items,	69 88	
Balance June 30, 1912,	23,451 52	
	<u>\$43,616 87</u>	<u>\$43,616 87</u>

AMESBURY AND SALISBURY GAS COMPANY.

ASSETS.

Real estate,	\$6,725 16
Machinery and manufacturing appliances,	67,430 58
Street mains,	87,160 88
Meters,	10,942 27
Due for gas,	11,128 36
Gas coal on hand,	182 20
Coke on hand,	147 37
Enrichers on hand,	210 70
Purifying materials on hand,	150 00
Other materials on hand,	25 00
Stoves on hand,	359 31
Fixtures, tools, etc., on hand,	560 27
Sundry accounts due the company,	17,318 39
Office furniture,	412 97
Cash on hand,	3,704 85
Total assets, as per books of the company,	<u>\$206,458 26</u>

LIABILITIES.

Capital stock,	\$60,000 00
Bonds issued,	60,000 60
Notes payable,	31,800 00
Unpaid bills,	44,616 20
Deposits,	305 00
Interest accrued but not due,	625 00

Total liabilities, as per books of the company,	\$197,346 20
Profit and loss balance,	9,112 06
	<hr/>
	\$206,458 26

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$11,098 75	
For distribution,	905 71	
management,	2,599 72	
taxes,	1,426 68	
incidentals,	234 82	
	<hr/>	
	\$16,265 68	
Income from sale of gas,		\$23,001 75
other sources,		876 85
Balance to profit and loss,	7,612 92	
	<hr/>	<hr/>
	\$23,878 60	\$23,878 60

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$6,571 99
Balance of manufacturing account,		7,612 92
Interest paid,	\$4,645 88	
Other items,	426 97	
Balance June 30, 1912,	9,112 06	
	<hr/>	<hr/>
	\$14,184 91	\$14,184 91

AMHERST GAS COMPANY.

ASSETS.

Real estate (gas),	\$5,117 00
Machinery and manufacturing appliances (gas),	23,712 33
Street mains (gas),	36,748 94
Services (gas),	5,273 09
Meters (gas),	2,772 03
Due for gas,	1,728 68
Enrichers on hand,	277 60
Other gas materials on hand,	1,242 64
Stoves on hand,	1,061 32
Gas fixtures, tools, etc., on hand,	430 49
Real estate (electric),	11,603 28
Steam plant (electric),	36,348 80
Electric plant,	25,104 51

Electric lines,	\$53,911 41
Transformers,	8,899 16
Meters (electric),	11,056 23
Arc lamps,	1,600 00
Due for electricity,	7,000 99
Fuel on hand (electric),	1,218 88
Other electric materials on hand,	15,278 02
Horses, wagons, automobiles,	2,528 23
Sundry accounts due the company,	6,668 58
Office furniture,	2,331 78
Cash on hand,	9,911 46
Notes receivable,	9,037 90
Insurance,	483 17
Interest prepaid,	215 29

Total assets, as per books of the company,	\$281,561 81
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LIABILITIES.

Capital stock,	\$150,000 00
Bonds issued,	30,000 00
Notes payable,	75,000 00
Unpaid bills,	5,040 02
Interest accrued but not due,	750 00
Reserved fund,	9,548 66
Amounts due from the company, not included above,	1,416 73

Total liabilities, as per books of the company,	\$271,755 41
Profit and loss balance,	9,806 40

\$281,561 81

MANUFACTURING ACCOUNT.

Operating expenses (gas):	Dr.	Cr.
At works,	\$5,055 36	
For distribution,	2,070 13	
management,	1,903 55	
taxes,	394 93	
incidentals,	550 04	
	<hr/>	
	\$9,974 01	
Operating expenses (electric):		
At station,	\$2,922 95	
For current bought,	9,332 09	
distribution,	5,386 47	
management,	5,611 14	
taxes,	1,579 73	
incidentals,	1,271 25	
	<hr/>	
	26,103 63	
Income from sale of gas,		\$4,760 49
sale of electricity,		40,830 51
Balance to profit and loss:		
Gas,		5,213 52
Electric,	14,726 88	
	<hr/>	<hr/>
	\$50,804 52	\$50,804 52

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$12,750 17
Balance of gas manufacturing account,	\$5,213 52	
Balance of electric manufacturing account,		14,726 88
Interest received,		101 49
Rents,		155 00
Jobbing,		685 75
Interest paid,	4,053 42	
Dividends declared,	6,000 00	
Other items,	3,345 95	
Balance June 30, 1912,	9,806 40	
	<u>\$28,419 29</u>	<u>\$28,419 29</u>

ARLINGTON GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$26,225 87
Machinery and manufacturing appliances,	67,831 34
Street mains,	226,514 71
Services,	14,157 51
Meters,	28,052 61
Due for gas,	8,116 40
Gas coal on hand,	6,382 23
Enrichers on hand,	302 65
Other materials on hand,	27 02
Fixtures, tools, etc., on hand,	6,920 88
Horses, wagons, etc.,	4,323 67
Sundry accounts due the company,	4,129 91
Office furniture,	2,774 21
Cash on hand,	1,652 37
Total assets, as per books of the company,	<u>\$397,411 38</u>

LIABILITIES.

Capital stock,	\$100,000 00
Bonds issued,	100,000 00
Notes payable,	167,200 00
Unpaid bills,	23,891 12
Deposits,	2,716 96
Interest accrued but not due,	1,250 00
Amounts due from the company, not included above,	1,342 91
Total liabilities, as per books of the company,	<u>\$396,400 99</u>
Profit and loss balance,	1,010 39
	<u>\$397,411 38</u>

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses:		
At works,	\$25,144 96	
For distribution,	7,281 44	
management,	11,845 66	
taxes,	2,050 56	
incidentals,	2,377 08	
	<u>\$48,699 70</u>	
Income from sale of gas,		\$67,024 34
Balance to profit and loss,	18,324 64	
	<u>\$67,024 34</u>	<u>\$67,024 34</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$157 38
Balance of manufacturing account,		18,324 64
Interest received,		199 83
Cancellation of notes,		5,000 00
Interest paid,	\$14,223 01	
Dividends declared,	8,000 00	
Other items,	448 45	
Balance June 30, 1912,	1,010 39	
	<hr/>	<hr/>
	\$23,681 85	\$23,681 85

ASHBY.

(See W. O. Loveland.)

ATHOL GAS AND ELECTRIC COMPANY.

ASSETS.

Real estate (gas),	\$11,273 57
Machinery and manufacturing appliances (gas),	26,887 62
Street mains (gas),	27,671 48
Services (gas),	3,771 61
Meters (gas),	4,463 67
Due for gas,	1,864 44
Gas coal on hand,	359 10
Enrichers on hand,	76 33
Gas fixtures, tools, etc., on hand,	142 03
Real estate (electric),	51,608 62
Water power plant,	42,802 03
Steam plant (electric),	64,814 89
Electric plant,	102,972 58
Electric lines,	111,209 17
Transformers,	15,868 24
Meters (electric),	19,532 82
Street lamps,	7,864 34
Due for electricity,	9,106 04
Fuel on hand (electric),	5,643 55
Other materials on hand,	11,613 75
Electric fixtures, tools, etc., on hand,	877 93
Horses, wagons, etc.,	3,550 00
Sundry accounts due the company,	8,066 86
Office furniture,	1,374 17
Cash on hand,	9,626 19
Notes receivable,	222 28
Insurance,	1,435 52
Interest prepaid,	2,499 48
Investments,	3,028 64
Work in process,	209,090 00

Total assets, as per books of the company, \$759,316 95

LIABILITIES.

Capital stock,	\$294,300 00
Bonds issued,	75,000 00
Notes payable,	310,500 00
Unpaid bills,	20,083 80
Interest accrued but not due,	2,808 27
Amounts due from the company, not included above,	1,125 00

Total liabilities, as per books of the company,	\$708,817 07
Profit and loss balance,	55,499 88

\$759,316 95

MANUFACTURING ACCOUNT.

Operating expenses (gas):

At works,	\$7,838 99
For distribution,	472 98
management,	1,995 86
taxes,	605 07
incidentals,	373 48

\$11,286 38

Operating expenses (electric):

At station,	\$20,833 68
For distribution,	4,032 23
management,	4,131 23
taxes,	4,659 04
incidentals,	1,373 27

35,029 45

Income from sale of gas,	\$15,388 72
other sources, gas,	188 14
sale of electricity,	73,596 39
other sources, electric,	375 26

Balance to profit and loss:

Gas,	4,290 48
Electric,	38,942 20

\$89,548 51

\$89,548 51

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$57,909 71
Balance of gas manufacturing account,		4,290 48
Balance of electric manufacturing account,		38,942 20
Interest received,		2,938 32
Rents,		671 32
Jobbing,		8,845 93
Other items of income,		2,157 50
Interest paid,	\$20,839 22	
Dividends declared,	24,180 00	
Depreciation,	12,555 46	
Other items,	2,680 90	
Balance June 30, 1912,	55,499 88	

\$115,755 46

\$115,755 46

ATTLEBORO GAS LIGHT COMPANY CORPORATION.

ASSETS.

Real estate,	\$41,961 98
Machinery and manufacturing appliances,	43,645 30
Street mains,	49,727 46
Meters,	22,038 15
Due for gas,	2,989 31
Gas coal on hand,	11,029 90
Coke on hand,	720 00
Tar on hand,	744 00
Enrichers on hand,	688 00
Purifying materials on hand,	260 00
Other materials on hand,	2,301 77
Stoves on hand,	421 40
Fixtures, tools, etc., on hand,	123 94
Sundry accounts due the company,	1,282 75
Office furniture,	1,003 84
Cash on hand,	11,494 56
Investments,	2,700 00
Total assets, as per books of the company,	<u>\$193,132 36</u>

LIABILITIES.

Capital stock,	\$58,000 00
Premium on capital stock,	14,500 00
Total liabilities, as per books of the company,	<u>\$72,500 00</u>
Profit and loss balance,	120,632 36
	<u>\$193,132 36</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$45,062 36	
For distribution,	5,604 34	
management,	8,199 46	
taxes,	3,432 34	
incidentals,	2,639 83	
	<u>\$64,938 33</u>	
Income from sale of gas,		\$63,369 20
residuals,		12,532 83
other sources,		3 00
Balance to profit and loss,	10,966 70	
	<u>\$75,905 03</u>	<u>\$75,905 03</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$114,689 36
Balance of manufacturing account,		10,966 70
Interest received,		322 29
Rents,		1,297 60
Jobbing,		513 16
Other items of income,		1 09
Dividends declared,	\$6,960 00	
Other items,	197 84	
Balance June 30, 1912,	120,632 36	
	<u>\$127,790 20</u>	<u>\$127,790 20</u>

ATTLEBOROUGH STEAM AND ELECTRIC COMPANY.

ASSETS.										
Real estate,	.	.	.	.	.	.	.	.	.	\$48,326 69
Steam plant,	.	.	.	.	.	.	.	.	.	78,169 81
Electric plant,	.	.	.	.	.	.	.	.	.	30,256 41
Electric lines,	.	.	.	.	.	.	.	.	.	56,900 87
Transformers,	.	.	.	.	.	.	.	.	.	18,076 38
Meters,	.	.	.	.	.	.	.	.	.	16,413 45
Arc lamps,	.	.	.	.	.	.	.	.	.	676 62
Due for electricity,	.	.	.	.	.	.	.	.	.	12,920 08
Fuel on hand,	.	.	.	.	.	.	.	.	.	4,392 80
Carbons on hand,	.	.	.	.	.	.	.	.	.	36 77
Incandescent lamps on hand,	.	.	.	.	.	.	.	.	.	1,444 77
Other materials on hand,	.	.	.	.	.	.	.	.	.	1,228 07
Motors on hand,	.	.	.	.	.	.	.	.	.	1,300 85
Fixtures, tools, etc., on hand,	.	.	.	.	.	.	.	.	.	1,426 85
Automobiles,	.	.	.	.	.	.	.	.	.	1,282 20
Sundry accounts due the company,	.	.	.	.	.	.	.	.	.	1,461 95
Office furniture,	.	.	.	.	.	.	.	.	.	1,000 00
Cash on hand,	.	.	.	.	.	.	.	.	.	41,654 70
Sinking fund,	.	.	.	.	.	.	.	.	.	15,739 54
Reserve fund,	.	.	.	.	.	.	.	.	.	10,000 00
Investments,	.	.	.	.	.	.	.	.	.	1,000 00
Total assets, as per books of the company,										\$343,708 81

LIABILITIES.										
Capital stock,	.	.	.	.	.	.	.	.	.	\$235,000 00
Bonds issued,	.	.	.	.	.	.	.	.	.	30,000 00
Unpaid bills,	.	.	.	.	.	.	.	.	.	1,966 47
Deposits,	.	.	.	.	.	.	.	.	.	319 00
Unpaid dividends,	.	.	.	.	.	.	.	.	.	14,100 00
Interest accrued but not due,	.	.	.	.	.	.	.	.	.	125 00
Total liabilities, as per books of the company,										\$281,510 47
Profit and loss balance,	.	.	.	.	.	.	.	.	.	62,198 34
										\$343,708 81

MANUFACTURING ACCOUNT.										
Operating expenses:						DR.			CR.	
At station,	.	.	.	\$34,880 94						
For current bought,	.	.	.	19 14						
distribution,	.	.	.	4,564 51						
management,	.	.	.	15,517 08						
taxes,	.	.	.	8,515 51						
incidentals,	.	.	.	1,585 07						
						\$65,082 25				
Income from sale of electricity,	.	.	.					\$115,106 77		
other sources,	.	.	.					19 50		
Balance to profit and loss,	.	.	.			50,044 02				
						\$115,126 27		\$115,126 27		

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$57,187 23
Balance of manufacturing account,		50,044 02
Interest received,		1,097 79
Rents,		394 00
Jobbing,		182 95
Interest paid,	\$1,500 00	
Dividends declared,	35,250 00	
Depreciation,	10,486 72	
Other items,	70 93	
Balance June 30, 1912,	62,198 34	
	<hr/>	<hr/>
	\$109,505 99	\$109,505 99

ATWOOD, L. S.

(Chatham.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$395 00	
For distribution,	10 00	
taxes,	6 53	
	<hr/>	
	\$411 53	
Income from sale of gas,		\$634 80
Balance to profit and loss,	223 27	
	<hr/>	<hr/>
	\$634 80	\$634 80

AYER ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$2,917 06
Steam plant,	8,119 89
Electric plant,	8,872 14
Electric lines,	21,718 14
Transformers,	2,602 88
Meters,	6,403 04
Arc lamps,	638 59
Due for electricity,	1,070 26
Fuel on hand,	1,235 00
Carbons on hand,	45 63
Incandescent lamps on hand,	283 30
Fixtures, tools, etc., on hand,	387 46
Sundry accounts due the company,	638 32
Office furniture,	190 48
Cash on hand,	746 63
Investments,	1,000 00
	<hr/>
Total assets, as per books of the company,	\$56,868 82

LIABILITIES.

Capital stock,	\$30,000 00
Bonds issued,	8,500 00
Notes payable,	11,000 00
Unpaid bills,	274 59
Deposits,	160 00
Unpaid dividends,	750 00
Interest accrued but not due,	141 67
Amounts due from the company, not included above,	76 04

Total liabilities, as per books of the company,	\$50,902 30
Profit and loss balance,	5,966 52
	<hr/>
	\$56,868 82

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$5,548 53	
For distribution,	1,138 80	
management,	1,971 71	
taxes,	148 95	
incidentals,	444 48	
	<hr/>	
	\$9,252 47	
Income from sale of electricity,		\$13,890 24
Balance to profit and loss,	4,637 77	
	<hr/>	<hr/>
	\$13,890 24	\$13,890 24

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$5,065 06
Balance of manufacturing account,		4,637 77
Interest received,		14 48
Rents,		97 00
Jobbing,		211 98
Interest paid,	\$1,102 29	
Dividends declared,	2,700 00	
Other items,	257 48	
Balance June 30, 1912,	5,966 52	
	<hr/>	<hr/>
	\$10,026 29	\$10,026 29

BALLOU, G. M.

(Shirley.)

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$1,716 00	
For distribution,	100 00	
taxes,	89 22	
incidentals,	55 00	
	<hr/>	
	\$1,960 22	
Income from sale of electricity,		\$3,729 90
Balance to profit and loss,	1,769 68	
	<hr/>	<hr/>
	\$3,729 90	\$3,729 90

BARNSTABLE.

(See COTUIT and HYANNIS.)

BARRE ACETYLENE GAS COMPANY.

ASSETS.

Real estate,	\$351 96
Machinery and manufacturing appliances,	335 17
Street mains,	1,756 99
Meters,	108 09
Due for gas,	192 25
Stoves on hand,	6 00
Fixtures, tools, etc., on hand,	40 59
Sundry accounts due the company,	35
Cash on hand,	280 23
<hr/>	
Total assets, as per books of the company,	\$3,071 63

LIABILITIES.

Capital stock,	\$2,400 00
<hr/>	
Total liabilities, as per books of the company,	\$2,400 00
Profit and loss balance,	671 63
<hr/>	
	\$3,071 63

MANUFACTURING ACCOUNT TO FEBRUARY 1, 1912.

Operating expenses:	Dr.	Cr.
At works,	\$901 98	
For distribution,	96 85	
management,	14 22	
taxes,	57 22	
	<hr/>	
	\$1,070 27	
Income from sale of gas,		\$832 58
Balance to profit and loss,		237 69
	<hr/>	<hr/>
	\$1,070 27	\$1,070 27

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$908 37
Balance of manufacturing account,	\$237 69	
Jobbing,		96
Balance June 30, 1912,	671 63	
	<hr/>	<hr/>
	\$909 32	\$909 32

BERNARDSTON ACETYLENE LIGHT COMPANY.

(Unincorporated.)

ASSETS.

Real estate,	\$500 00
Machinery and manufacturing appliances,	1,000 00
Street mains,	1,207 15
Meters,	253 41
Due for gas,	26 61
Carbide on hand,	70 50
Fixtures on hand,	91
Sundry accounts due the company,	70 00
Cash on hand,	6 00

Total assets, as per books of the company, \$3,134 58

LIABILITIES.

Capital stock,	\$2,300 00
Notes payable,	300 00
Interest due but not paid,	13 50

Total liabilities, as per books of the company, \$2,613 50
 Profit and loss balance, 521 08

\$3,134 58

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works, \$247 30		
For distribution, 27 00		
management, 49 08		
taxes, 8 07		
Incidentals, 8 93		
	\$340 38	
Income from sale of gas,		\$356 30
other sources,		6 76
Balance to profit and loss, 22 68		
	\$363 06	\$363 06

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$535 80
Balance of manufacturing account,		22 68
Interest paid,	\$18 65	
Other items,	18 75	
Balance June 30, 1912,	521 08	
	\$558 48	\$558 48

BEVERLY GAS AND ELECTRIC COMPANY.

ASSETS.	
Real estate (gas),	\$120,679 71
Machinery and manufacturing appliances (gas),	43,996 32
Street mains and services (gas),	178,121 18
Meters (gas),	31,763 57
Due for gas,	6,575 20
Gas coal on hand,	10,810 80
Coke on hand,	610 00
Tar on hand,	1,375 00
Enrichers on hand,	829 62
Other gas materials on hand,	16 00
Stoves on hand,	1,096 83
Real estate (electric),	68,946 83
Steam plant (electric),	87,466 99
Electric plant,	69,468 27
Electric lines,	108,768 18
Transformers,	12,499 17
Meters (electric),	15,674 17
Arc lamps,	3,549 18
Due for electricity,	8,915 65
Automobiles,	4,394 19
Sundry accounts due the company,	2,285 40
Office furniture,	2,617 89
Cash on hand,	11,597 81
Notes receivable,	60,000 00
Investments,	500 00
Total assets, as per books of the company,	\$852,557 96

LIABILITIES.	
Capital stock,	\$437,500 00
Unpaid bills,	534 91
Deposits,	1,955 00
Premium on capital stock,	180,250 00
Total liabilities as per books of the company,	\$620,239 91
Profit and loss balance,	232,318 05
	\$852,557 96

MANUFACTURING ACCOUNT.		Dr.	Cr.
Operating expenses (gas):			
At works,	\$49,573 12		
For distribution,	11,841 59		
management,	6,863 23		
taxes,	3,931 10		
incidentals,	1,212 34		
		\$78,421 38	
Operating expenses (electric):			
At station,	\$35,448 74		
For distribution,	8,589 00		
management,	6,541 58		
taxes,	7,899 03		
incidentals,	2,629 32		
		61,107 67	

	Dr.	Cr.
Income from sale of gas,		\$78,593 29
residuals,		15,815 74
other sources (gas),		364 92
sale of electricity,		130,603 78
other sources (electric),		2,676 95
Balance to profit and loss:		
Gas,	\$21,352 57	
Electric,	72,173 15	
	<u>\$228,054 77</u>	<u>\$228,054 77</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$185,679 01
Balance of gas manufacturing account,		21,352 57
Balance of electric manufacturing account,		72,173 15
Interest received,		2,932 61
Rents,		84 00
Profit and loss balance of Danvers Gas Lt. Co.,		19,116 93
Other items of income,		65 00
Interest paid,	\$439 03	
Dividends declared,	43,404 00	
Depreciation,	25,200 69	
Other items,	41 50	
Balance June 30, 1912,	232,318 05	
	<u>\$301,403 27</u>	<u>\$301,403 27</u>

THE BLACKSTONE ELECTRIC LIGHT COMPANY.

ASSETS.

Machinery and manufacturing appliances (gas),	\$2,250 00
Street mains (gas),	6,770 01
Services (gas),	1,704 96
Meters (gas),	1,869 34
Due for gas,	307 89
Electric lines,	12,900 99
Transformers,	1,353 04
Meters (electric),	1,316 96
Arc lamps,	801 93
Due for electricity,	230 77
Horses, wagons, etc.,	54 01
Sundry accounts due the company,	358 76
Cash on hand,	1,812 92
Insurance,	32 78
Total assets, as per books of the company,	<u>\$31,764 36</u>
Profit and loss balance,	10,931 53
	<u>\$42,695 89</u>

LIABILITIES.

Capital stock,	\$10,000 00
Notes payable,	28,413 01
Unpaid bills,	4,026 27
Deposits,	109 26
Interest accrued but not due,	33
Amounts due from the company, not included above,	147 02
Total liabilities, as per books of the company,	<u>\$42,695 89</u>

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
For gas bought,	\$2,589 72	
distribution,	201 28	
management,	398 99	
taxes,	377 94	
incidentals,	61 70	
	<hr/>	
	\$3,629 63	
Operating expenses (electric):		
For electricity bought,	\$5,827 14	
distribution,	1,348 58	
management,	1,082 38	
taxes,	285 09	
incidentals,	89 71	
	<hr/>	
	8,632 90	
Income from sale of gas,		\$4,740 28
sale of electricity,		9,181 04
Balance to profit and loss:		
Gas,	1,110 65	
Electric,	548 14	
	<hr/>	<hr/>
	\$13,921 32	\$13,921 32

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$11,015 12	
Balance of gas manufacturing account,		\$1,110 65
Balance of electric manufacturing account,		548 14
Interest received,		34 58
Jobbing,		157 60
Interest paid,	1,767 38	
Balance June 30, 1912,		10,931 53
	<hr/>	<hr/>
	\$12,782 50	\$12,782 50

BLOCK PLANT ELECTRIC LIGHT COMPANY.

(Boston.)

ASSETS.

Steam plant,	\$9,595 06
Electric plant,	7 894 61
Electric lines,	4,363 52
Meters,	2,541 04
Arc lamps,	1,890 77
Due for electricity,	3,337 86
Fuel on hand,	19 50
Carbons on hand,	8 00
Incandescent lamps on hand,	180 00
Other materials on hand,	25 00
Fixtures, tools, etc., on hand,	52 00
Sundry accounts due the company,	23 00
Cash on hand,	1,918 90
Investments,	13,616 89
	<hr/>
Total assets, as per books of the company,	\$45,466 15

LIABILITIES.

Capital stock,	\$9,500 00
Notes payable,	17,000 00
Deposits,	190 25
Interest due but not paid,	425 00
<hr/>	
Total liabilities, as per books of the company,	\$27,115 25
Profit and loss balance,	18,350 90
<hr/>	
	\$45,466 15

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$21,412 27	
For distribution,	1,510 47	
management,	440 00	
taxes,	81 96	
incidentals,	269 07	
	<hr/>	
	\$23,713 77	
Income from sale of electricity,		\$21,483 15
other sources,		4,220 20
Balance to profit and loss,	1,989 58	
	<hr/>	<hr/>
	\$25,703 35	\$25,703 35

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$16,799 47
Balance of manufacturing account,		1,989 58
Interest received,		616 44
Interest paid,	\$850 00	
Other items,	204 59	
Balance June 30, 1912,	18,350 90	
	<hr/>	<hr/>
	\$19,405 49	\$19,405 49

BOSTON CONSOLIDATED GAS COMPANY.

ASSETS.

Real estate,	\$5,919,861 43
Machinery and manufacturing appliances,	6,483,024 81
Street mains,	9,987,880 86
Services,	1,484,276 95
Meters,	1,471,504 44
Due for gas,	183,824 29
Gas coal on hand,	59,036 90
Coke on hand,	49,716 27
Tar, etc., on hand,	21,415 53
Enrichers on hand,	92,598 97
Purifying materials on hand,	7,189 80
Other materials on hand,	299,854 83
Stoves,	271,578 66
Horses, wagons, etc.,	50,783 72
Sundry accounts due the company,	53,726 56

Office furniture,	\$50,153 83
Cash on hand,	85,874 09
Interest prepaid,	952 34
Liability insurance fund,	2,229 55
Insurance,	6,772 54
Printing plant,	6,739 16
Investments,	42,761 05
<hr/>	
Total assets, as per books of the company,	\$26,631,756 58

LIABILITIES.

Capital stock,	\$15,124,600 00
Notes payable,	2,098,052 23
Unpaid bills,	262,684 90
Deposits,	149,080 84
Reserved fund,	2,448 08
Premium on capital stock,	8,893,264 80
Amounts due from the company, not included above,	81,492 37
<hr/>	
Total liabilities, as per books of the company,	\$26,611,623 22
Profit and loss balance,	20,133 36
<hr/>	
	\$26,631,756 58

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$784,202 11	
For gas bought,	743,325 48	
distribution,	446,562 44	
management,	282,580 04	
taxes,	429,780 20	
incidentals,	24,107 39	
	<hr/>	
	\$2,710,557 66	
Income from sale of gas,		\$4,134,149 25
residuals,		30,857 71
Balance to profit and loss,	1,454,449 30	
	<hr/>	<hr/>
	\$4,165,006 96	\$4,165,006 96

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$47,546 61
Balance of manufacturing account,		1,454,449 30
Interest received,		5,301 45
Rents,		14,618 42
Sale of real estate,		47,203 00
Other items of income,		34,090 13
+ Interest paid,	\$96,292 25	
Dividends declared,	1,361,214 00	
Depreciation,	39,098 16	
Reserve fund,	35,000 00	
Other items,	51,471 14	
Balance June 30, 1912,	20,133 36	
	<hr/>	<hr/>
	\$1,603,208 91	\$1,603,208 91

BRIDGES (J. B.) AND COMPANY.

(South Deerfield.)

MANUFACTURING ACCOUNT TO NOVEMBER 30, 1911.

Operating expenses:	Dr.	Cr.
For electricity bought,	\$650 00	
distribution,	248 85	
management,	25 00	
taxes,	3 84	
	<hr/>	
	\$927 69	
Income from sale of electricity,		\$1,120 75
Balance to profit and loss,	193 06	
	<hr/>	<hr/>
	\$1,120 75	\$1,120 75

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance of manufacturing account,		\$193 06
Liabilities assumed by Greenfield Electric Light and Power Co.,		5,635 05
Dividends declared,	\$193 06	
Assets transferred to Greenfield Electric Light and Power Co.,	5,635 05	
	<hr/>	<hr/>
	\$5,828 11	\$5,828 11

BROCKTON GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$70,961 11
Machinery and manufacturing appliances,	298,948 46
Street mains,	372,174 29
Services,	79,863 78
Meters,	105,841 35
High candle power lamps,	29,117 73
Due for gas,	19,622 88
Gas coal on hand,	158 20
Gas on hand,	83 94
Tar on hand,	552 10
Enrichers on hand,	3,633 43
Purifying materials on hand,	269 43
Other materials on hand,	23,610 06
Stoves on hand,	5,133 22
Fixtures, tools, etc., on hand,	8,515 54
Horses, wagons, etc.,	6,245 33
Sundry accounts due the company,	11,878 93
Office furniture,	1,515 49
Cash on hand,	39,147 78
Insurance,	589 92
Investments,	36,712 65
	<hr/>
Total assets, as per books of the company,	\$1,112,575 62

LIABILITIES.

Capital stock,	\$559,000 00
Bonds issued,	100,000 00
Notes payable,	389,541 49
Unpaid bills,	18,631 95
Deposits,	3,119 49
Interest accrued but not due,	2,083 33

Total liabilities, as per books of the company,	\$1,072,376 26
Profit and loss balance,	40,199 36

\$1,112,575 62

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$94,307 84	
For distribution,	49,240 56	
management,	20,323 77	
taxes,	14,070 85	
incidentals,	2,429 38	
	<hr/>	
	\$180,372 40	
Income from sale of gas,		\$239,867 24
residuals,		3,776 01
other sources,		40 80
Balance to profit and loss,	63,311 65	
	<hr/>	<hr/>
	\$243,684 05	\$243,684 05

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$41,357 75
Balance of manufacturing account,		63,311 65
Interest received,		859 88
Rents,		446 00
Jobbing,		1,619 68
Other items of income,		15 53
Interest paid,	\$17,409 99	
Dividends declared,	33,540 00	
Depreciation,	16,000 00	
Other items,	461 14	
Balance June 30, 1912,	40,199 36	
	<hr/>	<hr/>
	\$107,610 49	\$107,610 49

BUZZARDS BAY ELECTRIC COMPANY.

(Falmouth.)

ASSETS.

Real estate,	\$9,867 30
Steam plant,	18,771 36
Electric plant,	8,035 07
Electric lines,	36,504 05
Transformers,	1,330 56
Due for electricity,	1,808 96
Fuel on hand,	945 00

Oil and waste on hand,	\$26 70
Incandescent lamps on hand,	204 75
Other materials on hand,	6,953 14
Fixtures, tools, etc., on hand,	20 93
Horses, wagons, etc.,	621 00
Sundry accounts due the company,	13,830 03
Cash on hand,	801 39

Total assets, as per books of the company,	\$99,720 24
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LIABILITIES.

Capital stock,	\$11,000 00
Notes payable,	7,596 25
Unpaid bills,	553 44
Amounts due from the company, not included above,	80,492 62

Total liabilities, as per books of the company,	\$99,642 31
Profit and loss balance,	77 93

\$99,720 24

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$6,000 77	
For distribution,	953 91	
management,	1,236 91	
taxes,	147 86	
incidentals,	50 00	
	<hr/>	
	\$8,389 45	
Income from sale of electricity,		\$13,176 90
Balance to profit and loss,	4,787 45	
	<hr/>	<hr/>
	\$13,176 90	\$13,176 90

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$1,975 71	
Balance of manufacturing account,		\$4,787 45
Interest paid,	2,733 81	
Balance June 30, 1912,	77 93	
	<hr/>	<hr/>
	\$4,787 45	\$4,787 45

CAMBRIDGE ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$162,868 91
Steam plant,	341,504 06
Electric plant,	127,334 50
Electric lines,	408,819 87
Transformers,	43,802 73
Meters,	48,074 97
Arc lamps,	15,623 88
Due for electricity,	26,378 34
Fuel on hand,	4,703 17

Carbons on hand,	\$198 00
Incandescent lamps on hand,	4,749 66
Other materials on hand,	20,575 21
Motors on hand,	1,577 69
Horses, wagons and automobiles,	7,115 23
Sundry accounts due the company,	4,986 82
Office furniture,	2,419 51
Cash on hand,	40,527 08
Notes receivable,	1,025 00
Investments,	58,000 00

Total assets, as per books of the company, \$1,320,284 63

LIABILITIES.

Capital stock,	\$850,000 00
Unpaid bills,	11,134 16
Deposits,	2,549 63
Interest accrued but not due,	210 00
Reserved fund,	42,500 00
Premium on capital stock,	270,000 00

Total liabilities, as per books of the company, \$1,176,393 79
Profit and loss balance, 143,890 84

\$1,320,284 63

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$101,203 83	
For electricity bought,	400 80	
distribution,	63,967 19	
management,	22,954 46	
taxes,	38,985 33	
incidentals,	9,053 92	
	<hr/>	
	\$236,565 53	
Income from sale of electricity,		\$430,495 49
other sources,		4,654 01
Balance to profit and loss,	198,583 97	
	<hr/>	<hr/>
	\$435,149 50	\$435,149 50

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$128,433 97
Balance of manufacturing account,		198,583 97
Interest received,		1,786 09
Rents,		2,570 00
Jobbing,		751 62
Transferred from reserve fund,		85,000 00
Interest paid,	\$1,147 13	
Dividends declared,	187,000 00	
Depreciation,	42,500 00	
Reserve fund,	37,500 00	
Other items,	5,087 68	
Balance June 30, 1912.	143,890 84	
	<hr/>	<hr/>
	\$417,125 65	\$417,125 65

CAMBRIDGE GAS LIGHT COMPANY.

ASSETS.									
Real estate,	.	.	.	.	.	.	.	.	\$379,067 05
Machinery and manufacturing appliances,	.	.	.	.	.	.	.	.	1,289,367 20
Street mains,	.	.	.	.	.	.	.	.	699,369 79
Meters,	.	.	.	.	.	.	.	.	113,000 00
Due for gas,	.	.	.	.	.	.	.	.	26,463 55
Gas coal on hand,	.	.	.	.	.	.	.	.	55,318 73
Coke on hand,	.	.	.	.	.	.	.	.	3,500 00
Enrichers on hand,	.	.	.	.	.	.	.	.	3,104 10
Purifying materials on hand,	.	.	.	.	.	.	.	.	3,164 08
Other materials on hand,	.	.	.	.	.	.	.	.	52,534 85
Stoves on hand,	.	.	.	.	.	.	.	.	8,628 82
Automobiles,	.	.	.	.	.	.	.	.	4,952 00
Sundry accounts due the company,	.	.	.	.	.	.	.	.	17,615 10
Cash on hand,	.	.	.	.	.	.	.	.	47,240 68
Notes receivable,	.	.	.	.	.	.	.	.	50,075 00
Office building,	.	.	.	.	.	.	.	.	46,222 10
Investments,	.	.	.	.	.	.	.	.	25,500 00
Total assets, as per books of the company,									\$2,825,123 05

LIABILITIES.									
Capital stock,	.	.	.	.	.	.	.	.	\$1,440,000 00
Notes payable,	.	.	.	.	.	.	.	.	1,400 00
Unpaid bills,	.	.	.	.	.	.	.	.	2,958 49
Deposits,	.	.	.	.	.	.	.	.	22,200 00
Unpaid dividends,	.	.	.	.	.	.	.	.	20 00
Premium on capital stock,	.	.	.	.	.	.	.	.	715,965 50
Interest accrued but not due,	.	.	.	.	.	.	.	.	2,952 08
Reserved funds,	.	.	.	.	.	.	.	.	20,000 00
Depreciation fund,	.	.	.	.	.	.	.	.	20,000 00
Amounts due from the company, not included above,	.	.	.	.	.	.	.	.	4,601 11
Total liabilities, as per books of the company,									\$2,230,097 18
Profit and loss balance,	.	.	.	.	.	.	.	.	595,025 87
									\$2,825,123 05

MANUFACTURING ACCOUNT.									
Operating expenses:				DR.			CR.		
At works,	.	.	.	\$306,512	60				
For distribution,	.	.	.	98,002	45				
management,	.	.	.	39,123	14				
taxes,	.	.	.	57,536	49				
incidentals,	.	.	.	8,064	30				
				\$509,238	98				
Income from sale of gas,	.	.	.				\$653,003	97	
residuals,	.	.	.				76,656	56	
other sources,	.	.	.				4	00	
Balance to profit and loss,	.	.	.	220,425	55				
				\$729,664	53		\$729,664	53	

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$559,021 01
Balance of manufacturing account,		220,425 55
Interest received,		2,517 69
Rents,		6,492 12
Jobbing,		3,672 38
Other items of income,		1,184 20
Interest paid,	\$18,531 24	
Dividends declared,	120,000 00	
Depreciation,	25,664 33	
Reserve funds,	30,000 00	
Other items,	4,091 51	
Balance June 30, 1912,	595,025 87	
	<u>\$793,312 95</u>	<u>\$793,312 95</u>

CAPE LIGHT, HEAT AND POWER COMPANY.
(Provincetown.)

ASSETS.

Real estate,	\$9,233 65
Electric plant,	24,285 24
Electric lines,	12,257 58
Transformers,	1,348 31
Meters,	1,782 63
Arc lamps,	117 00
Electric pumps,	2,400 00
Due for electricity,	939 85
Fuel on hand,	261 25
Oil and waste on hand,	25 00
Incandescent lamps on hand,	75 00
Fixtures, tools, etc., on hand,	155 00
Office furniture,	137 75
Cash on hand,	33 60
Sinking fund,	1,000 00
Total assets, as per books of the company,	<u>\$54,051 86</u>
Profit and loss balance,	781 43
	<u>\$54,833 29</u>

LIABILITIES.

Capital stock,	\$35,000 00
Bonds issued,	14,000 00
Notes payable,	3,150 00
Unpaid bills,	2,263 29
Interest due but not paid,	420 00
Total liabilities, as per books of the company,	<u>\$54,833 29</u>

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses:		
At station,	\$4,073 32	
For distribution,	1,903 40	
management,	1,714 54	
taxes,	882 19	
	<u>\$8,573 45</u>	

	Dr.	Cr.
Income from sale of electricity,		\$9,826 83
other sources,		124 91
Balance to profit and loss,	\$1,378 29	
	<hr/>	<hr/>
	\$9,951 74	\$9,951 74

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$990 90	
Balance of manufacturing account,		\$1,378 29
Interest paid,	1,020 40	
Other items,	148 42	
Balance June 30, 1912,		781 43
	<hr/>	<hr/>
	\$2,159 72	\$2,159 72

CARPENTER, EUGENE.

(See COTUIT AND HYANNIS.)

CENTRAL MASSACHUSETTS ELECTRIC COMPANY.

ASSETS.

Real estate,	\$108,801 49
Steam plant,	31,613 87
Water power plant,	22,144 55
Electric plant,	42,987 34
Electric lines,	110,356 78
Transformers,	13,704 92
Meters,	11,921 00
Arc lamps,	6,953 20
Due for electricity,	10,393 77
Fuel on hand,	4,126 06
Other materials on hand,	7,447 30
Fixtures, tools, etc., on hand,	1,451 10
Horses, wagons, etc.,	25 00
Sundry accounts due the company,	7,822 21
Office furniture,	609 00
Cash on hand,	5,006 92
Sinking fund,	21,983 05
Reserve fund,	1,801 69
Insurance,	1,619 79
Investments,	2,000 00
	<hr/>
Total assets, as per books of the company,	\$412,769 04

LIABILITIES.

Capital stock,	\$150,000 00
Bonds issued,	150,000 00
Notes payable,	72,674 98
Unpaid bills,	4,996 61

Deposits,	\$30 00
Unpaid dividends,	1,202 50
Interest accrued but not due,	4,200 00
Amounts due from the company, not included above,	1,125 00

Total liabilities, as per books of the company,	\$384,229 09
Profit and loss balance,	28,539 95

\$412,769 04

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$42,168 72	
For distribution,	7,541 75	
management,	4,041 51	
taxes,	5,894 19	
incidentals,	799 80	
	<hr/>	
	\$60,445 97	
Income from sale of electricity,		\$93,877 13
Balance to profit and loss,	33,431 16	
	<hr/>	<hr/>
	\$93,877 13	\$93,877 13

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$66,867 99
Balance of manufacturing account,		33,431 16
Interest received,		5,120 17
Rents,		195 72
Other items of income,		2,117 91
Interest paid,	\$11,783 33	
Dividends declared,	24,000 00	
Depreciation,	43,063 52	
Other items,	346 15	
Balance June 30, 1912,	28,539 95	
	<hr/>	<hr/>
	\$107,732 95	\$107,732 95

CHARLEMONT ELECTRIC LIGHT AND POWER COMPANY.

ASSETS.

Steam plant,	\$1,500 00
Electric plant,	1,450 00
Electric lines,	1,114 50
Meters,	54 63
Due for electricity,	769 17
Incandescent lamps on hand,	25 26
Other materials on hand,	15 26
Sundry accounts due the company,	87 04
Office furniture,	25 00
Cash on hand,	132 11

Total assets, as per books of the company, \$5,172 97

LIABILITIES.

Capital stock,	\$3,000 00
Unpaid bills,	130 10
Amounts due from the company, not included above,	1,615 92
<hr/>	
Total liabilities, as per books of the company,	\$4,746 02
Profit and loss balance,	426 95
<hr/>	
	\$5,172 97

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$1,150 15	
For distribution,	74 32	
management,	37 16	
taxes,	21 36	
	<hr/>	
	\$1,282 99	
Income from sale of electricity,		\$1,709 94
Balance to profit and loss,	426 95	
	<hr/>	<hr/>
	\$1,709 94	\$1,709 94

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance of manufacturing account,		\$426 95
Balance June 30, 1912,	\$426 95	
	<hr/>	<hr/>
	\$426 95	\$426 95

CHARLESTOWN GAS AND ELECTRIC COMPANY.

ASSETS.

Real estate (gas),	\$151,839 00
Machinery and manufacturing appliances (gas),	372,498 79
Street mains (gas),	232,457 76
Meters (gas),	53,939 36
Due for gas,	13,166 89
Gas coal on hand,	26,938 28
Coke on hand,	6,112 50
Tar on hand,	490 33
Enrichers on hand,	41 48
Other gas materials on hand,	8,602 72
Stoves on hand,	1,284 10
Real estate (electric),	1,000 00
Electric lines,	54,805 30
Transformers,	13,685 78
Meters (electric),	7,864 15
Arc lamps,	194 45
Due for electricity,	7,915 77
Other electric materials on hand,	651 78
Sundry accounts due the company,	9,309 64
Cash on hand,	25,818 02
Insurance,	207 12
<hr/>	
Total assets, as per books of the company,	\$988,823 22

LIABILITIES.

Capital stock,	\$600,000 00
Notes payable,	50,000 00
Unpaid bills,	8,010 81
Deposits,	13,495 55
Premium on capital stock,	91,901 12
Reserved fund,	2,491 89
Amounts due from the company, not included above,	4,224 70

Total liabilities, as per books of the company,	\$770,124 07
Profit and loss balance,	218,699 15

\$988,823 22

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses (gas):		
At works,	\$151,006 99	
For gas bought,	255 10	
distribution,	25,119 20	
management,	12,528 48	
taxes,	22,742 64	
incidentals,	1,722 57	
	<hr/>	
	\$213,374 98	
Operating expenses (electric):		
At station,	\$7,401 89	
For electricity bought,	27,595 19	
distribution,	13,296 75	
management,	4,033 56	
taxes,	3,154 55	
incidentals,	1,024 66	
	<hr/>	
	56,506 60	
Income from sale of gas,		\$228,417 45
residuals,		62,083 21
other sources (gas),		2 00
sale of electricity,		85,822 41
Balance to profit and loss:		
Gas,	77,127 68	
Electric,	29,315 81	
	<hr/>	
	\$376,325 07	\$376,325 07

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$215,596 78
Balance of gas manufacturing account,		77,127 68
Balance of electric manufacturing account,		29,315 81
Interest received,		433 36
Interest paid,	\$2,695 74	
Dividends declared,	75,000 00	
Depreciation,	22,977 50	
Reserve fund,	2,568 85	
Other items,	532 39	
Balance June 30, 1912,	218,699 15	
	<hr/>	
	\$322,473 63	\$322,473 63

CHESTER ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$1,315 05
Steam plant,	729 81
Electric plant,	1,694 89
Water power,	2,513 88
Electric lines,	1,350 72
Meters,	603 66
Due for electricity,	258 97
Fuel on hand,	16 00
Oil and waste on hand,	15 00
Incandescent lamps on hand,	150 00
Fixtures, tools, etc., on hand,	100 67
Office furniture,	79 50
Cash on hand,	65 80

- Total assets, as per books of the company, \$8,893 95

LIABILITIES.

Capital stock,	\$5,000 00
Notes payable,	3,200 00
Unpaid bills,	331 45
Interest accrued but not due,	62 50

Total liabilities, as per books of the company, \$8,593 95
Profit and loss balance, 300 00

\$8,893 95

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$1,485 86	
For distribution,	437 89	
management,	211 74	
taxes,	51 99	
incidentals,	58 01	
	\$2,245 49	
Income from sale of electricity,		\$2,940 29
Balance to profit and loss,	694 80	
	\$2,940 29	\$2,940 29

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$300 00
Balance of manufacturing account,		694 80
Interest paid,	\$194 80	
Dividends declared,	300 00	
Depreciation,	200 00	
Balance June 30, 1912,	300 00	
	\$994 80	\$994 80

CHICOPEE GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$50,221 32
Machinery and manufacturing appliances,	61,099 21
Street mains,	147,672 32
Services,	17,884 11
Meters,	49,215 64
Gas arcs,	5,770 98
Due for gas,	788 61
Coal on hand,	232 67
Other materials on hand,	12,766 09
Fixtures, tools, etc., on hand,	3,413 50
Work in process,	231 35
Horses, wagons, etc.,	1,549 36
Sundry accounts due the company,	2,582 09
Office furniture,	3,264 46
Cash on hand,	5,463 97
Insurance interest and taxes prepaid,	2,726 55
Investments,	83 89
<hr/>	
Total assets, as per books of the company,	\$364,966 12

LIABILITIES.

Capital stock,	\$166,500 00
Bonds issued,	60,000 00
Notes payable,	100,000 00
Unpaid bills,	6,453 13
Deposits,	916 75
Interest accrued but not due,	1,359 08
Amounts due from the company, not included above,	819 92
<hr/>	
Total liabilities, as per books of the company,	\$336,048 88
Profit and loss balance,	28,917 24
<hr/>	
	\$364,966 12

MANUFACTURING ACCOUNT.

		Dr.	Cr.
Operating expenses:			
At works,	\$3,277 12		
For gas bought,	26,455 28		
distribution,	12,840 01		
management,	7,546 82		
taxes,	5,118 25		
incidentals,	1,766 27		
<hr/>		\$57,003 25	
Income from sale of gas,			\$68,809 41
other sources,			1,250 00
Balance to profit and loss,		13,056 16	
		<hr/>	<hr/>
		\$70,059 41	\$70,059 41

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$38,387 00
Balance of manufacturing account,		13,056 16
Interest received,		35 99
Rents,		40 00
Other items of income,		250 17
Interest paid,	\$7,255 75	
Dividends declared,	6,660 00	
Depreciation,	4,030 28	
Other items,	4,906 05	
Balance June 30, 1912,	28,917 24	
	<hr/>	<hr/>
	\$51,769 32	\$51,769 32

CITIZENS' GAS, ELECTRIC AND POWER COMPANY OF NANTUCKET

ASSETS.

Real estate (gas),	\$3,794 76
Machinery and manufacturing appliances (gas),	12,206 51
Street mains and services (gas),	4,993 88
Meters (gas),	1,795 65
Due for gas,	1,364 10
Gas coal on hand,	127 50
Coke on hand,	2 50
Tar on hand,	115 00
Purifying materials on hand,	165 00
Other gas materials on hand,	39 61
Gas fixtures on hand,	132 47
Real estate (electric),	3,451 16
Steam plant (electric),	15,094 80
Electric plant,	4,077 70
Electric lines,	6,649 73
Transformers,	1,336 79
Meters (electric),	1,425 05
Arc lamps,	1,535 13
Due for electricity,	1,558 67
Fuel on hand (electric),	2,728 50
Carbons on hand,	5 25
Incandescent lamps on hand,	124 35
Other electric materials on hand,	604 82
Electric fixtures, tools, etc., on hand,	97 90
Sundry accounts due the company,	785 22
Office furniture,	104 52
Cash on hand,	70 79
Total assets, as per books of the company,	<hr/> \$64,387 36

LIABILITIES.

Capital stock,	\$26,000 00
Bonds issued,	25,500 00
Notes payable,	8,500 00
Unpaid bills,	1,151 81
Total liabilities, as per books of the company,	<hr/> \$61,151 81
Profit and loss balance,	3,235 55
	<hr/> \$64,387 36

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
At works,	\$6,097 21	
For distribution,	445 18	
management,	1,248 38	
taxes,	159 11	
incidentals,	257 46	
	<hr/>	
	\$8,207 34	
Operating expenses (electric):		
At station,	\$5,675 11	
For distribution,	618 75	
management,	1,248 39	
taxes,	318 22	
incidentals,	489 91	
	<hr/>	
	8,350 38	
Income from sale of gas,		\$9,264 05
residuals,		394 60
sale of electricity,		11,770 69
Balance to profit and loss:		
Gas,	1,451 31	
Electric,	3,420 31	
	<hr/>	<hr/>
	\$21,429 34	\$21,429 34

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$505 35
Balance of gas manufacturing account,		1,451 31
Balance of electric manufacturing account,		3,420 31
Jobbing,		363 58
Other items of income,		45 00
Interest paid,	\$1,550 00	
Depreciation,	1,000 00	
Balance June 30, 1912,	3,235 55	
	<hr/>	<hr/>
	\$5,785 55	\$5,785 55

CITIZENS' GAS LIGHT COMPANY OF QUINCY.

ASSETS.

Real estate,	\$16,780 26
Machinery and manufacturing appliances,	85,908 36
Street mains,	423,766 80
Services,	43,070 99
Gas arcs,	1,916 83
Meters,	46,487 74
Due for gas,	8,531 36
Gas coal on hand,	185 15
Gas on hand,	204 75
Other materials on hand,	24,180 18
Stoves on hand,	1,179 42
Horses, wagons, etc.,	3,943 88
Sundry accounts due the company,	7,479 46

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Office furniture,	\$931 78
Cash on hand,	4,493 18
Insurance,	185 62

Total assets, as per books of the company,	\$669,245 76
Profit and loss balance,	24,297 26

\$693,543 02

LIABILITIES.

Capital stock,	\$383,000 00
Notes payable,	300,000 00
Unpaid bills,	8,860 42
Deposits,	383 00
Amounts due from the company, not included above,	1,299 60

Total liabilities, as per books of the company,	\$693,543 02
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MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At works,	\$4,784 93	
For gas bought,	37,546 20	
distribution,	11,244 43	
management,	9,105 57	
taxes,	6,420 00	
incidentals,	172 43	
	<hr/>	
	\$69,273 56	
Income from sale of gas,		\$101,105 83
Balance to profit and loss,	31,832 27	
	<hr/>	<hr/>
	\$101,105 83	\$101,105 83

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,	\$25,343 72	
Balance of manufacturing account,		\$31,832 27
Interest received,		512 64
Jobbing,		872 00
Interest paid,	13,246 82	
Dividends declared,	17,235 00	
Depreciation,	632 38	
Other items,	1,056 25	
Balance June 30, 1912,		24,297 26
	<hr/>	<hr/>
	\$57,514 17	\$57,514 17

CLINTON GAS LIGHT COMPANY.

ASSETS.

Real estate (gas),	\$15,467 99
Machinery and manufacturing appliances (gas),	62,758 56
Street mains (gas),	42,971 88
Services (gas),	12,205 69
Meters (gas),	8,840 26
Due for gas,	3,014 93
Gas coal on hand,	2,541 60
Enrichers on hand,	176 22
Purifying materials on hand,	12 00

Gas fixtures, tools, etc., on hand,	.	.	.	.	.	.	\$2,064 59
Real estate (electric),	.	.	.	.	.	.	29,184 41
Steam plant (electric),	.	.	.	.	.	.	25,865 55
Electric plant,	.	.	.	.	.	.	20,361 66
Electric lines,	.	.	.	.	.	.	78,484 13
Transformers,	.	.	.	.	.	.	7,659 61
Meters (electric),	.	.	.	.	.	.	7,704 46
Arc lamps,	.	.	.	.	.	.	3,025 62
Due for electricity,	.	.	.	.	.	.	4,064 12
Fuel on hand (electric),	.	.	.	.	.	.	4,426 40
Carbons on hand,	.	.	.	.	.	.	24 25
Incandescent lamps on hand,	.	.	.	.	.	.	491 39
Other electric materials on hand,	.	.	.	.	.	.	482 82
Horses, wagons, etc.,	.	.	.	.	.	.	1,149 07
Sundry accounts due the company,	.	.	.	.	.	.	1,806 86
Office furniture,	.	.	.	.	.	.	1,205 07
Cash on hand,	.	.	.	.	.	.	682 09

Total assets, as per books of the company, . . . \$336,671 23

LIABILITIES.

Capital stock,	.	.	.	.	.	.	\$123,000 00
Bonds issued,	.	.	.	.	.	.	110,000 00
Notes payable,	.	.	.	.	.	.	57,000 00
Unpaid bills,	.	.	.	.	.	.	2,488 70
Deposits,	.	.	.	.	.	.	1,375 92
Unpaid dividends,	.	.	.	.	.	.	1,537 50
Reserved fund,	.	.	.	.	.	.	10,050 57
Depreciation fund,	.	.	.	.	.	.	9,835 04
Amounts due from the company, not included above,	.	.	.	.	.	.	979 65

Total liabilities, as per books of the company, . . . \$316,267 38
Profit and loss balance, . . . 20,403 85

\$336,671 23

MANUFACTURING ACCOUNT.

				Dr.	Cr.
Operating expenses (gas):					
At works,	.	.	\$11,875 89		
For distribution,	.	.	2,551 77		
management,	.	.	3,908 43		
taxes,	.	.	1,827 93		
incidentals,	.	.	1,129 75		
				\$21,293 77	
Operating expenses (electric):					
At station,	.	.	\$13,905 99		
For distribution,	.	.	3,831 51		
management,	.	.	4,872 12		
taxes,	.	.	1,841 25		
incidentals,	.	.	1,208 61		
				25,659 48	
Income from sale of gas,	.	.	.		\$29,107 89
sale of electricity,	.	.	.		42,717 19
Balance to profit and loss:					
Gas,	.	.	.	7,814 12	
Electric,	.	.	.	17,057 71	
				\$71,825 08	\$71,825 08

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$10,439 03
Balance of gas manufacturing account,		7,814 12
Balance of electric manufacturing account,		17,057 71
Interest received,		117 09
Other items of income,		22 43
Interest paid,	\$8,487 55	
Dividends declared,	6,150 00	
Other items,	408 98	
Balance June 30, 1912,	20,403 85	
	<hr/>	<hr/>
	\$35,450 38	\$35,450 38

COLRAIN ELECTRIC LIGHT AND POWER COMPANY.

MANUFACTURING ACCOUNT.

(To Aug. 25, 1911.)

	DR.	CR.
For electricity bought,	\$179 36	
Income from sale of electricity,		\$276 40
Balance to profit and loss,	97 04	
	<hr/>	<hr/>
	\$276 40	\$276 40

PROFIT AND LOSS ACCOUNT.

(To Aug. 25, 1911.)

	DR.	CR.
Balance June 30, 1911,	\$339 14	
Balance of manufacturing account,		\$97 04
Capital stock cancelled,		2,500 00
Accounts payable assumed by purchaser,		772 27
Assets transferred to Greenfield Electric Light and Power Company,	3,030 17	
	<hr/>	<hr/>
	\$3,369 31	\$3,369 31

CONWAY.

(See DEERFIELD RIVER ELECTRIC LIGHT COMPANY.)

COTUIT ACETYLENE GAS PLANT.

(Eugene Carpenter, Owner.)

ASSETS.

Real estate,	\$677 86
Machinery and manufacturing appliances,	527 03
Street mains,	990 00
Services,	147 00
Meters,	128 65
Due for gas,	86 24
Carbide on hand,	55 10
Sundry accounts due the company,	608 33
	<hr/>
Total assets, as per books of the company,	\$3,220 21

LIABILITIES.

Capital invested,	\$2,462 14
Total liabilities, as per books of the company,	\$2,462 14
Profit and loss balance,	758 07
	<u>\$3,220 21</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$284 25	
For distribution,	82 82	
management,	3 50	
	<u>\$370 57</u>	
Income from sale of gas,		\$647 29
Balance to profit and loss,	276 72	
	<u>\$647 29</u>	<u>\$647 29</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$481 35
Balance of manufacturing account,		276 72
Balance June 30, 1912,	\$758 07	
	<u>\$758 07</u>	<u>\$758 07</u>

DANVERS GAS LIGHT COMPANY.

MANUFACTURING ACCOUNT TO SEPT. 30, 1911.

Operating expenses:	Dr.	Cr.
At works,	\$2 00	
For gas bought,	2,318 12	
distribution,	230 01	
management,	681 23	
taxes,	790 18	
	<u>\$4,021 54</u>	
Income from sale of gas,		\$4,499 25
other sources,		18 20
Balance to profit and loss,	495 91	
	<u>\$4,517 45</u>	<u>\$4,517 45</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$14,243 97
Balance of manufacturing account,		495 91
Interest received,		1 77
Capital stock cancelled,		30,000 00
Liabilities assumed by Beverly Gas & Electric Co.,		15,553 26
Interest paid,	\$55 20	
Dividends declared,	1,350 00	
Assets transferred to Beverly Gas & Electric Co.,	58,889 71	
	<u>\$60,294 91</u>	<u>\$60,294 91</u>

DEDHAM AND HYDE PARK GAS AND ELECTRIC LIGHT COMPANY.

ASSETS.									
Real estate,	.	.	.	.	.	.	.	.	\$5,297 87
Machinery and manufacturing appliances,	.	.	.	.	.	.	.	.	30,733 81
Street mains,	.	.	.	.	.	.	.	.	170,946 93
Services,	.	.	.	.	.	.	.	.	9,987 89
Meters,	.	.	.	.	.	.	.	.	19,693 91
Due for gas,	.	.	.	.	.	.	.	.	5,824 08
Other materials on hand,	.	.	.	.	.	.	.	.	2,566 94
Fixtures, tools, etc., on hand,	.	.	.	.	.	.	.	.	3,558 85
Horses, wagons, etc.,	.	.	.	.	.	.	.	.	1,318 76
Sundry accounts due the company,	.	.	.	.	.	.	.	.	3,195 05
Office furniture,	.	.	.	.	.	.	.	.	1,070 96
Cash on hand,	.	.	.	.	.	.	.	.	8,450 67
Insurance,	.	.	.	.	.	.	.	.	402 06
Investments,	.	.	.	.	.	.	.	.	1,500 00
Total assets, as per books of the company,									\$264,547 78

LIABILITIES.									
Capital stock,	.	.	.	.	.	.	.	.	\$141,750 00
Bonds issued,	.	.	.	.	.	.	.	.	60,000 00
Notes payable,	.	.	.	.	.	.	.	.	20,000 00
Unpaid bills,	.	.	.	.	.	.	.	.	3,615 90
Deposits,	.	.	.	.	.	.	.	.	732 22
Interest accrued but not due,	.	.	.	.	.	.	.	.	625 00
Premium on capital stock,	.	.	.	.	.	.	.	.	4,350 00
Total liabilities, as per books of the company,									\$231,073 12
Profit and loss balance,	.	.	.	.	.	.	.	.	33,474 66
									\$264,547 78

MANUFACTURING ACCOUNT.									
Operating expenses:					Dr.	Cr.			
At works,	.	.	.	\$528 33					
For gas bought,	.	.	.	25,324 32					
distribution,	.	.	.	2,771 59					
management,	.	.	.	8,866 64					
taxes,	.	.	.	3,160 00					
incidentals,	.	.	.	424 69					
					\$41,075 57				
Income from sale of gas,	.	.	.					\$60,364 70	
other sources, gas,	.	.	.					569 32	
Balance to profit and loss,	.	.	.		19,858 45				
					\$60,934 02	\$60,934 02			

PROFIT AND LOSS ACCOUNT.									
					Dr.	Cr.			
Balance June 30, 1911,	.	.	.					\$36,647 75	
Balance of manufacturing account,	.	.	.					19,858 45	
Interest received,	.	.	.					80 37	
Jobbing,	.	.	.					1,614 65	

	Dr.	Cr.
Interest paid,	\$3,016 16	
Dividends declared,	14,175 00	
Depreciation,	7,500 00	
Other items,	35 40	
Balance June 30, 1912,	33,474 66	
	<hr/>	<hr/>
	\$58,201 22	\$58,201 22

DEERFIELD RIVER ELECTRIC LIGHT COMPANY.

(Conway.)

ASSETS.		
Electric lines,		\$4,651 28
Transformers,		805 11
Meters,		22 50
Arc lamps,		40 10
Due for electricity,		345 66
Sundry accounts due the company,		731 01
Cash on hand,		570 47
		<hr/>
Total assets, as per books of the company,		\$7,166 13

LIABILITIES.		
Capital stock,		\$4,700 00
		<hr/>
Total liabilities, as per books of the company,		\$4,700 00
Profit and loss balance,		2,466 13
		<hr/>
		\$7,166 13

MANUFACTURING ACCOUNT.		Dr.	Cr.
Operating expenses:			
For electricity bought,	\$1,400 00		
distribution,	66 86		
management,	241 50		
taxes,	86 99		
	<hr/>	\$1,795 35	
Income from sale of electricity,			\$2,251 53
Balance to profit and loss,		456 18	
		<hr/>	<hr/>
		\$2,251 53	\$2,251 53

PROFIT AND LOSS ACCOUNT.		Dr.	Cr.
Balance June 30, 1911,			\$2,426 13
Balance of manufacturing account,			456 18
Other items of income,			53 82
Dividends declared,	\$470 00		
Balance June 30, 1912,	2,466 13		
	<hr/>	<hr/>	<hr/>
	\$2,936 13		\$2,936 13

EAST BOSTON GAS COMPANY.

ASSETS.

Real estate,	\$277,430 99
Machinery and manufacturing appliances,	249,880 95
Street mains,	199,763 29
Services,	37,866 35
Meters,	93,052 78
Due for gas,	32,731 08
Gas coal on hand,	5,465 20
Coke on hand,	622 72
Tar on hand,	579 09
Enrichers on hand,	167 96
Other materials on hand,	40,577 21
Stoves on hand,	5,307 36
Horses, wagons, etc.,	4,202 58
Sundry accounts due the company,	4,259 75
Office furniture,	4,944 26
Cash on hand,	11,551 44
Insurance,	655 20
Total assets, as per books of the company,	<u>\$969,058 21</u>

LIABILITIES.

Capital stock,	\$575,000 00
Notes payable,	45,000 00
Unpaid bills,	25,589 47
Deposits,	32,586 17
Premium on capital stock,	11,000 00
Reserved fund,	3,856 13
Amounts due from the company, not included above,	4,814 57
Total liabilities, as per books of the company,	<u>\$697,846 34</u>
Profit and loss balance,	271,211 87
	<u>\$969,058 21</u>

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At works,	\$78,684 57	
For gas bought,	80,112 00	
distribution,	37,844 93	
management,	38,653 15	
taxes,	22,830 00	
incidentals,	2,351 64	
	<u>\$260,476 29</u>	
Income from sale of gas,		\$308,052 21
residuals,		13,097 75
other sources,		1,675 30
Balance to profit and loss,	62,348 97	
	<u>\$322,825 26</u>	<u>\$322,825 26</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$268,488 47
Balance of manufacturing account,		62,348 97
Interest received,		671 75

	Dr.	Cr.
Rents,		\$753 90
Jobbing,		1,236 33
Interest paid,	\$2,065 28	
Dividends declared,	57,500 00	
Depreciation,	1,553 87	
Other items,	1,168 40	
Balance June 30, 1912,	271,211 87	
	<u>\$333,499 42</u>	<u>\$333,499 42</u>

EASTHAMPTON GAS COMPANY.

ASSETS.

Real estate (gas),	\$11,590 09
Machinery and manufacturing appliances (gas),	29,453 94
Street mains and services (gas),	24,859 63
Meters (gas),	7,507 82
Due for gas,	1,943 69
Gas coal on hand,	390 00
Coke on hand,	70 00
Tar on hand,	97 50
Enrichers on hand,	124 87
Purifying materials on hand,	2 20
Other gas materials on hand,	2,650 33
Stoves on hand,	375 98
Gas fixtures, tools, etc., on hand,	365 00
Real estate (electric),	98,423 35
Steam plant (electric),	58,538 43
Electric plant,	44,696 46
Work in process,	42,446 14
Electric lines,	37,648 42
Transformers,	3,590 99
Meters (electric),	3,517 10
Spur track,	477 76
Due for electricity,	7,484 93
Fuel on hand (electric),	2,271 95
Other electric materials on hand,	18,575 62
Electric fixtures, tools, etc., on hand,	904 83
Horses, wagons, etc.,	1,929 06
Sundry accounts due the company,	7,747 69
Office furniture,	2,041 47
Cash on hand,	3,890 04
Notes receivable,	600 00
Insurance,	360 86
Interest prepaid,	1,056 56
Total assets, as per books of the company,	<u>\$415,632 71</u>

LIABILITIES.

Capital stock,	\$200,000 00
Notes payable,	164,000 00
Unpaid bills,	18,864 94
Deposits,	100 00
Amounts due from the company, not included above,	2,452 45
Total liabilities, as per books of the company,	<u>\$385,417 39</u>
Profit and loss balance,	30,215 32
	<u>\$415,632 71</u>

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
At works,	\$12,720 90	
For distribution,	1,677 25	
management,	3,477 64	
taxes,	794 41	
incidentals,	581 25	
	<hr/>	
	\$19,251 45	
Operating expenses (electric):		
At station,	\$10,189 92	
For electricity bought,	16,567 74	
distribution,	5,170 47	
management,	3,578 84	
taxes,	2,698 82	
incidentals,	1,970 45	
	<hr/>	
	40,176 24	
Income from sale of gas,		\$21,769 74
residuals,		2,790 92
sale of electricity,		50,338 03
Balance to profit and loss:		
Gas,	5,309 21	
Electric,	10,161 79	
	<hr/>	<hr/>
	\$74,898 69	\$74,898 69

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$32,569 28
Balance of gas manufacturing account,		5,309 21
Balance of electric manufacturing account,		10,161 79
Interest received,		44 53
Jobbing,		342 10
Interest paid,	\$5,316 34	
Dividends declared,	9,750 00	
Other items,	3,145 25	
Balance June 30, 1912,	30,215 32	
	<hr/>	<hr/>
	\$48,426 91	\$48,426 91

THE EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON.

ASSETS.

Properties purchased,	\$1,963,995 49
Real estate,	6,805,020 18
Steam plant,	4,718,300 06
Electric plant,	4,853,058 00
Electric lines,	11,886,531 59
Transformers,	531,877 77
Meters,	1,042,816 79
Arc lamps,	390,206 94
Due for electricity,	461,840 49
Fuel on hand,	132,002 63
Incandescent lamps on hand,	52,201 19
Other materials on hand,	429,448 80

Motors on hand,	\$13,105 98
Horses, wagons and automobiles,	214,243 91
Cash on hand,	214,132 61
Notes receivable,	282,577 43
Investments,	19,483 33

Total assets, as per books of the company, \$33,990,843 19

LIABILITIES.

Capital stock,	\$15,603,700 00
Bonds issued,	1,465,000 00
Notes payable,	5,673,500 00
Unpaid bills,	156,672 99
Deposits,	27,916 25
Unpaid dividends,	468,111 00
Interest accrued but not due,	59,779 17
Reserved fund,	330,598 49
Premium on capital stock,	9,951,130 99
Amounts due from the company, not included above,	118,629 47

Total liabilities, as per books of the company, \$33,855,038 36
Profit and loss balance, 135,804 83

\$33,990,843 19

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$953,155 35	
For electricity bought,	62 00	
distribution,	659,785 57	
management,	653,574 50	
taxes,	780,000 00	
incidentals,	171,249 51	
	<u>\$3,217,826 93</u>	
Income from sale of electricity,		\$5,787,344 68
other sources,		18,592 78
Balance to profit and loss,	2,588,110 53	
	<u>\$5,805,937 46</u>	<u>\$5,805,937 46</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$102,996 39
Balance of manufacturing account,		2,588,110 53
Interest received,		13,753 23
Rents,		14,286 88
Jobbing,		862 65
Other items of income,		44,852 31
Interest paid,	\$256,613 16	
Dividends declared,	1,872,444 00	
Reserve fund,	500,000 00	
Balance June 30, 1912,	135,804 83	
	<u>\$2,764,861 99</u>	<u>\$2,764,861 99</u>

EDISON ELECTRIC ILLUMINATING COMPANY OF BROCKTON.

ASSETS.

Real estate (gas),	\$4,410 56
Machinery and manufacturing appliances (gas),	3,312 93
Street mains (gas),	6,861 60
Services (gas),	35 14
Meters (gas),	1,807 31
Due for gas,	158 48
Enrichers on hand,	66 38
Stoves on hand,	149 86
Real estate (electric),	278,829 47
Steam plant (electric),	289,243 07
Electric plant,	225,758 18
Electric lines,	502,740 44
Transformers,	65,267 67
Meters (electric),	55,477 73
Arc lamps,	31,177 25
Due for electricity,	23,630 05
Fuel on hand (electric),	39,981 17
Other electric materials on hand,	57,548 88
Electric fixtures, tools, etc., on hand,	3,542 22
Horses, wagons and automobiles,	7,088 62
Sundry accounts due the company,	4,470 23
Office furniture,	1,642 69
Cash on hand,	14,049 34
Notes receivable,	2,291 16
Prepaid taxes,	381 45
Insurance,	4,752 11
Prepaid interest,	528 40
Investments,	14,133 68
<hr/>	
Total assets, as per books of the company,	\$1,639,336 07

LIABILITIES.

Capital stock,	\$948,800 00
Bonds of Bridgewater Electric Company,	15,000 00
Bonds of Stoughton Gas and Electric Company,	18,000 00
Bonds issued,	200,000 00
Notes payable,	125,000 00
Unpaid bills,	14,224 91
Deposits,	362 83
Interest accrued but not due,	1,809 36
Replacement reserve,	79,156 89
Other reserved fund,	44,000 34
Premium on capital stock,	59,520 00
Amounts due from the company, not included above,	20,182 01
<hr/>	
Total liabilities, as per books of the company,	\$1,526,056 34
Profit and loss balance,	113,279 73
<hr/>	
	\$1,639,336 07

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
At works,	\$1,769 99	
For distribution,	691 33	
management,	149 66	
taxes,	226 13	
incidentals,	63 30	
	<u>\$2,900 41</u>	
Operating expenses (electric):		
At station,	\$91,617 59	
For distribution,	54,430 13	
management,	49,780 37	
taxes,	35,668 50	
incidentals,	4,867 65	
	<u>236,364 24</u>	
Income from sale of gas,		\$3,696 60
sale of electricity,		368,189 88
Balance to profit and loss:		
Gas,	796 19	
Electric,	131,825 64	
	<u>\$371,886 48</u>	<u>\$371,886 48</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$97,354 43
Balance of gas manufacturing account,		796 19
Balance of electric manufacturing account,		131,825 64
Interest received,		216 10
Jobbing,		1,832 22
Interest paid,	\$17,200 43	
Dividends declared,	75,904 00	
Sinking funds,	5,824 76	
Reserve fund,	19,000 00	
Other items,	815 66	
Balance June 30, 1912,	113,279 73	
	<u>\$232,024 58</u>	<u>\$232,024 58</u>

FALL RIVER ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$351,582 90
Steam plant,	215,719 57
Electric plant,	155,937 01
Electric lines,	781,567 53
Transformers,	52,198 85
Meters,	40,489 88
Arc lamps,	29,345 42
Work in process,	91,197 72
Due for electricity,	22,305 86
Fuel on hand,	3,785 45
Carbons on hand,	204 20
Incandescent lamps on hand,	5,706 78

Other materials on hand,	\$35,205 66
Motors on hand,	7,860 41
Fixtures, tools, etc., on hand,	6,093 34
Horses, wagons, etc.,	6,754 00
Sundry accounts due the company,	8,226 15
Office furniture,	6,161 34
Cash on hand,	23,868 57
Notes receivable,	10,246 61
Insurance and interest,	10,728 51

Total assets, as per books of the company, \$1,865,185 76

LIABILITIES.

Capital stock,	\$800,000 00
Notes payable,	715,000 00
Unpaid bills,	56,341 30
Deposits,	561 00
Unpaid dividends,	16,000 00
Premium on capital stock,	175,000 00
Depreciation fund,	12,500 00
Amounts due from the company, not included above,	7,563 04

Total liabilities, as per books of the company, \$1,782,965 34

Profit and loss balance, 82,220 42

\$1,865,185 76

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$55,358 77	
For distribution,	68,791 22	
management,	35,160 59	
taxes,	23,784 95	
incidentals,	5,582 37	
	<hr/>	
	\$188,677 90	
Income from sale of electricity,		\$312,592 63
Balance to profit and loss,	123,914 73	
	<hr/>	<hr/>
	\$312,592 63	\$312,592 63

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$68,755 00
Balance of manufacturing account,		123,914 73
Interest received,		613 04
Jobbing,		368 10
Interest paid,	\$25,572 66	
Dividends declared,	64,000 00	
Reserve fund,	12,500 00	
Other items,	9,357 79	
Balance June 30, 1912,	82,220 42	
	<hr/>	<hr/>
	\$193,650 87	\$193,650 87

FALL RIVER GAS WORKS COMPANY.

Assets.

Real estate,	\$337,317 51
Machinery and manufacturing appliances,	369,731 36
Street mains,	445,040 21
Services,	50,281 78
Meters,	123,187 79
Due for gas,	27,702 37
Gas coal on hand,	10,893 00
Coke on hand,	260 29
Tar on hand,	4,502 90
Enrichers on hand,	7,869 97
Purifying materials on hand,	206 93
Other materials on hand,	29,875 01
Stoves on hand,	7,644 24
Horses, wagons, etc.,	1,837 92
Sundry accounts due the company,	18,632 04
Office furniture,	2,609 75
Cash on hand,	63,580 72
Notes receivable,	2,100 00
Insurance,	3,648 98
Taxes and interest prepaid,	887 95

Total assets, as per books of the company, \$1,507,810 72

LIABILITIES.

Capital stock,	\$690,000 00
Notes payable,	200,000 00
Unpaid bills,	16,802 66
Deposits,	5,600 00
Interest accrued but not due,	22 22
Replacement reserve,	121,840 42
Premium on capital stock,	111,598 67
Amounts due from the company, not included above,	10,074 10

Total liabilities, as per books of the company, \$1,155,938 07

Profit and loss balance, 351,872 65

\$1,507,810 72

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At works,	\$161,374 76	
For distribution,	69,880 43	
management,	36,999 68	
taxes,	40,836 46	
incidentals,	4,840 39	
	<hr/>	
	\$313,931 72	
Income from sale of gas,		\$447,887 43
residuals,		2,104 80
other sources,		257 63
Balance to profit and loss,	136,318 14	
	<hr/>	<hr/>
	\$450,249 86	\$450,249 86

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$355,132 00
Balance of manufacturing account,		136,318 14
Interest received,		1,696 71
Rents,		737 42
Interest paid,	\$7,424 78	
Dividends declared,	82,800 00	
Replacement reserve,	50,000 00	
Other items,	1,786 84	
Balance June 30, 1912,	351,872 65	
	<hr/>	<hr/>
	\$493,884 27	\$493,884 27

FITCHBURG GAS AND ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate (gas),	\$48,928 83
Machinery and manufacturing appliances (gas),	115,667 93
Street mains (gas),	168,985 59
Services (gas),	24,025 86
Meters (gas),	65,028 71
Gas arc lamps,	2,414 22
Due for gas,	1,962 26
Gas work in process,	68,069 53
Gas coal on hand,	7,360 37
Coke on hand,	2,381 51
Tar on hand,	370 72
Enrichers on hand,	841 43
Purifying materials on hand,	902 24
Other gas materials on hand,	18,493 32
Stoves on hand,	2,100 00
Gas fixtures, tools, etc., on hand,	2,422 39
Real estate (electric),	138,003 07
Steam plant (electric),	156,237 57
Hydraulic plant,	4,664 00
Electric plant,	105,029 61
Electric lines,	256,113 58
Dams, canals, etc.,	24,062 00
Transformers,	23,302 90
Meters (electric),	18,636 99
Arc lamps,	7,209 81
Electric work in process,	14,225 34
Due for electricity,	9,001 43
Fuel on hand (electric),	891 76
Carbons on hand,	121 34
Incandescent lamps on hand,	1,105 00
Other materials on hand,	40,058 79
Motors on hand,	2,310 00
Electric fixtures, tools, etc., on hand,	4,008 97
Horses, wagons, etc.,	9,418 48
Sundry accounts due the company,	19,835 24
Office furniture,	8,940 72

Cash on hand,	\$70,412 80
Subscriptions to capital stock,	213,180 00
Investments,	13,144 00

Total assets, as per books of the company, \$1,669,868 31

LIABILITIES.

Capital stock,	\$568,150 00
Notes payable,	415,000 00
Unpaid bills,	19,343 09
Deposits,	3,710 90
Premium on capital stock,	331,030 00
Installments on new capital stock,	161,750 00
Interest accrued but not due,	2,701 40
Reserved funds,	20,168 66
Amounts due from the company, not included above,	250 00

Total liabilities, as per books of the company, \$1,520,104 05

Profit and loss balance, 149,764 26

\$1,669,868 31

MANUFACTURING ACCOUNT.

Operating expenses (gas):	DR.	CR.
At works,	\$52,058 64	
For distribution,	16,157 50	
management	21,171 81	
taxes,	9,304 44	
incidentals,	3,420 42	
	\$102,112 81	
Operating expenses (electric):		
At station,	\$48,014 60	
For current bought,	5,471 17	
distribution,	14,634 03	
management,	24,081 27	
taxes,	13,828 55	
incidentals,	6,184 02	
	112,213 64	
Income from sale of gas,		\$116,701 66
residuals,		6,476 05
other sources (gas),		1,312 07
sale of electricity,		158,871 14
other sources (electric),		5,281 16
Balance to profit and loss:		
Gas,	22,376 97	
Electric,	51,938 66	
	\$288,642 08	\$288,642 08

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$170,520 21
Balance of gas manufacturing account,		22,376 97
Balance of electric manufacturing account,		51,938 66
Interest received,		333 49
Rents,		16 00

	Dr.	Cr.
Jobbing,		\$1,031 76
Other items of income,		7,743 21
Interest paid,	\$15,015 96	
Dividends declared,	56,615 00	
Depreciation fund,	5,989 91	
Reserve fund,	20,000 00	
Other items,	6,575 17	
Balance June 30, 1912,	149,764 26	
	<u>\$253,960 30</u>	<u>\$253,960 30</u>

FOXBORO ELECTRIC COMPANY.

ASSETS.

Real estate,	\$1,448 76
Steam plant,	91 35
Electric plant,	4,284 17
Electric lines,	44,131 85
Transformers,	3,390 05
Meters,	3,846 93
Due for electricity,	6,194 40
Incandescent lamps and other materials on hand,	258 35
Horses, wagons, etc.,	800 00
Sundry accounts due the company,	6,784 89
Office furniture,	384 65
Cash on hand,	5,786 44
Notes receivable,	199 50
Insurance,	12 51
Interest prepaid,	262 12
Total assets, as per books of the company,	<u>\$77,875 97</u>

LIABILITIES.

Capital stock,	\$16,500 00
Notes payable,	53,000 00
Unpaid bills,	3,341 28
Interest accrued but not due,	153 47
Amounts due from the company, not included above,	150 00
Total liabilities, as per books of the company,	<u>\$73,144 75</u>
Profit and loss balance,	4,731 22
	<u>\$77,875 97</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$11,445 05	
For electricity bought,	2,607 14	
distribution,	2,264 09	
management,	1,865 58	
taxes,	578 60	
incidentals,	442 11	
	<u>\$19,202 57</u>	
Income from sale of electricity,		\$17,686 19
other sources,		6,667 52
Balance to profit and loss,	5,151 14	
	<u>\$24,353 71</u>	<u>\$24,353 71</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance of manufacturing account,		\$5,151 14
Interest received,		166 79
Jobbing,		42 54
Contributions by stockholders,		1,879 65
Interest paid,	\$1,518 90	
Dividends declared,	990 00	
Balance June 30, 1912,	4,731 22	
	<hr/>	<hr/>
	\$7,240 12	\$7,240 12

FRAMINGHAM GAS, FUEL AND POWER COMPANY.

ASSETS.

Real estate,	\$35,070 78
Machinery and manufacturing appliances,	52,380 79
Street mains,	53,035 10
Services,	6,502 30
Meters,	12,527 30
Due for gas,	3,498 09
Gas coal on hand,	402 64
Coke on hand,	1,433 44
Tar on hand,	165 54
Enrichers on hand,	36 50
Purifying materials on hand,	100 00
Other materials on hand,	2,270 54
Stoves and fixtures on hand,	4,351 86
Patent rights,	15,000 00
Horses, wagons, etc.,	1,584 52
Sundry accounts due the company,	4,432 60
Office furniture,	1,813 90
Cash on hand,	1,303 51
Insurance fund,	546 23
	<hr/>
Total assets, as per books of the company,	\$196,455 64
Profit and loss balance,	2,933 56
	<hr/>
	\$199,389 20

LIABILITIES.

Capital stock,	\$75,000 00
Bonds issued,	55,000 00
Notes payable,	60,000 00
Unpaid bills,	8,247 16
Interest accrued but not due,	595 81
Reserved fund,	546 23
	<hr/>
Total liabilities, as per books of the company,	\$199,389 20

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$20,981 18	
For distribution,	6,081 26	
management,	3,986 12	
taxes,	1,379 09	
incidentals,	877 85	
	<hr/>	
	\$33,305 50	

	Dr.	Cr.
Income from sale of gas,		\$39,263 82
residuals,		5,243 28
other sources,		510 93
Balance to profit and loss,	\$11,712 53	
	<hr/>	<hr/>
	\$45,018 03	\$45,018 03

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$9,052 14	
Balance of manufacturing account,		\$11,712 53
Interest received,		26 18
Jobbing,		230 23
Interest paid,	5,820 10	
Other items,	30 26	
Balance June 30, 1912,		2,933 56
	<hr/>	<hr/>
	\$14,902 50	\$14,902 50

FRANKLIN.

(See UNION ELECTRIC LIGHT COMPANY.)

FRANKLIN ELECTRIC LIGHT COMPANY.

(Turners Falls.)

ASSETS.

Electric lines,	\$22,753 99
Transformers,	1,413 77
Meters,	2,827 15
Arc lamps,	400 00
Due for electricity,	1,427 81
Carbons on hand,	20 00
Incandescent lamps on hand,	170 58
Other materials on hand,	633 40
Sundry accounts due the company,	824 69
Office furniture,	75 40
Cash on hand,	514 07
Notes receivable,	294 52

Total assets, as per books of the company,	\$31,355 38
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LIABILITIES.

Capital stock,	\$20,000 00
Notes payable,	6,000 00
Unpaid bills,	2,021 61
Unpaid dividends,	1,200 00

Total liabilities, as per books of the company,	\$29,221 61
Profit and loss balance,	2,133 77

\$31,355 38

Premium on capital stock,	\$10,000 00
Depreciation fund,	5,986 38
Amounts due from the company, not included above,	577 32
<hr/>	
Total liabilities, as per books of the company,	\$330,654 33
Profit and loss balance,	7,466 71
<hr/>	
	\$338,121 04

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$8,428 32	
For electricity bought,	26,030 63	
distribution,	7,483 27	
management,	5,670 95	
taxes,	3,082 76	
incidentals,	3,619 47	
	<hr/>	
	\$54,315 40	
Income from sale of electricity,		\$69,516 20
other sources,		570 08
Balance to profit and loss,	15,770 88	
	<hr/>	<hr/>
	\$70,086 28	\$70,086 28

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$7,466 71
Balance of manufacturing account,		15,770 88
Interest received,		991 23
Rents,		120 00
Jobbing,		479 90
Interest paid,	\$2,712 01	
Dividends declared,	11,050 00	
Depreciation fund,	3,600 00	
Balance June 30, 1912,	7,466 71	
	<hr/>	<hr/>
	\$24,828 72	\$24,828 72

GARDNER GAS, FUEL AND LIGHT COMPANY.

ASSETS.

Real estate,	\$8,694 63
Machinery and manufacturing appliances,	26,138 26
Street mains,	70,400 89
Services,	11,993 44
Meters,	7,928 78
Due for gas,	6,649 47
Gas coal on hand,	400 70
Enrichers on hand,	268 01
Purifying materials on hand,	50 00
Other materials on hand,	5,692 47
Stoves on hand,	1,454 34
Fixtures, tools, etc., on hand,	425 47
Horses, wagons, etc.,	1,030 00
Sundry accounts due the company,	7,961 77
Office furniture,	450 00
Cash on hand,	13,298 75

Interest prepaid,	\$456 02
Insurance,	561 14
Investments,	2,049 68
Total assets, as per books of the company,	<u>\$165,903 82</u>

LIABILITIES.

Capital stock,	\$26,200 00
Bonds issued,	15,500 00
Notes payable,	91,000 00
Unpaid bills,	14,252 78
Deposits,	5 00
Interest accrued but not due,	662 63
Amounts due from the company, not included above,	432 80
Total liabilities, as per books of the company,	<u>\$148,053 21</u>
Profit and loss balance,	17,850 61
	<u>\$165,903 82</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$8,791 53	
For distribution,	3,064 56	
management,	1,521 30	
taxes,	592 25	
incidentals,	1,035 87	
	<u>\$15,005 51</u>	
Income from sale of gas,		\$21,811 67
other sources,		94 60
Balance to profit and loss,	6,900 76	
	<u>\$21,906 27</u>	<u>\$21,906 27</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$18,553 44
Balance of manufacturing account,		6,900 76
Interest received,		293 24
Jobbing,		863 21
Interest paid,	\$4,021 45	
Dividends declared,	1,572 00	
Depreciation,	2,505 43	
Other items,	661 16	
Balance June 30, 1912,	17,850 61	
	<u>\$26,610 65</u>	<u>\$26,610 65</u>

GEORGETOWN GAS COMPANY.

ASSETS.

Real estate,	\$1,150 00
Machinery and manufacturing appliances,	1,000 00
Street mains,	5,901 52
Meters,	326 23
Due for gas,	146 53
Carbide on hand,	34 07
Stoves on hand,	18 50
Cash on hand,	103 10
Total assets, as per books of the company,	<u>\$8,679 95</u>

LIABILITIES.

Capital stock,	\$7,500 00
Total liabilities, as per books of the company,	\$7,500 00
Profit and loss balance,	1,179 95
	<u>\$8,679 95</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$759 97	
For distribution,	67 00	
taxes,	53 20	
	<u>\$880 17</u>	
Income from sale of gas,		\$1,031 73
Balance to profit and loss,	151 56	
	<u>\$1,031 73</u>	<u>\$1,031 73</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$1,028 39
Balance of manufacturing account,		151 56
Balance June 30, 1912,	\$1,179 95	
	<u>\$1,179 95</u>	<u>\$1,179 95</u>

GLOUCESTER ELECTRIC COMPANY.

ASSETS.

Real estate,	\$68,897 19
Steam plant,	60,217 58
Electric plant,	59,971 52
Electric lines,	185,390 71
Transformers,	24,163 63
Meters,	30,635 96
Arc lamps,	1,000 00
Work in process,	16,750 04
Due for electricity,	8,853 83
Fuel on hand,	2,744 00
Carbons on hand,	38 00
Incandescent lamps on hand,	1,239 20
Other materials on hand,	634 07
Motors on hand,	331 20
Fixtures, tools, etc., on hand,	107 87
Horses, wagons, etc.,	2,755 00
Sundry accounts due the company,	2,515 72
Office furniture,	2,305 72
Cash on hand,	12,081 65
Notes receivable,	150 00
Sinking fund,	10,982 38
Total assets, as per books of the company,	<u>\$491,765 27</u>

LIABILITIES.

Capital stock,	\$245,000 00
Bonds issued,	48,000 00
Unpaid bills,	15,621 18
Deposits,	325 89
Interest accrued but not due,	1,000 00
Premium on capital stock,	20,000 00

Total liabilities, as per books of the company,	\$329,947 07
Profit and loss balance,	161,818 20

\$491,765 27

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$23,913 96	
For distribution,	29,764 39	
management,	5,941 15	
taxes,	6,379 82	
incidentals,	5,926 05	
	<hr/>	
	\$71,925 37	
Income from sale of electricity,		\$109,143 65
Balance to profit and loss,	37,218 28	
	<hr/>	
	\$109,143 65	\$109,143 65

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$146,989 47
Balance of manufacturing account,		37,218 28
Rents,		35 00
Jobbing,		65 07
Interest paid,	\$3,245 40	
Dividends declared,	12,250 00	
Depreciation,	6,994 22	
Balance June 30, 1912,	161,818 20	
	<hr/>	
	\$184,307 82	\$184,307 82

GLOUCESTER GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$52,893 33
Machinery and manufacturing appliances,	63,149 83
Street mains,	131,849 76
Services,	969 20
Meters,	17,223 91
Due for gas,	6,857 50
Gas coal on hand,	8,100 24
Enrichers on hand,	2,535 72
Purifying materials on hand,	100 14
Other materials on hand,	369 90
Fixtures, tools, etc., on hand,	7,838 77
Horses, wagons, etc.,	2,060 70
Sundry accounts due the company,	9,168 26

Office furniture,	\$1,176 31
Cash on hand,	362 06
Investments,	5,000 00

Total assets, as per books of the company, \$309,655 63

LIABILITIES.

Capital stock,	\$150,000 00
Notes payable,	68,500 00
Unpaid bills,	16,647 41
Deposits,	65 00
Unpaid dividends,	4,500 00
Premium on capital stock,	40,000 00
Depreciation fund,	12,500 00
Amounts due from the company, not included above,	503 08

Total liabilities, as per books of the company, \$292,715 49

Profit and loss balance, 16,940 14

\$309,655 63

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At works,	\$28,476 54	
For distribution,	6,221 36	
management,	12,597 32	
taxes,	6,362 93	
incidentals,	2,709 62	
	\$56,367 77	
Income from sale of gas,		\$75,144 53
residuals,		1,880 15
other sources,		587 50
Balance to profit and loss,	21,244 41	
	\$77,612 18	\$77,612 18

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$14,758 15
Balance of manufacturing account,		21,244 41
Interest received,		496 22
Rents,		802 00
Jobbing,		1,539 46
Interest paid,	\$3,461 77	
Dividends declared,	18,000 00	
Other items,	438 33	
Balance June 30, 1912,	16,940 14	
	\$38,840 24	\$38,840 24

GREAT BARRINGTON ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$50,000 00
Steam plant,	1,105 59
Electric plant,	36,702 40
Electric lines,	44,376 91

Transformers,	\$10,540 75
Meters,	11,403 43
Arc lamps,	214 50
Due for electricity,	3,881 60
Fuel on hand,	26 40
Carbons on hand,	2 22
Oil and waste on hand,	55 86
Incandescent lamps on hand,	459 41
Other materials on hand,	4,394 26
Motors on hand,	43 52
Fixtures, tools, etc., on hand,	1,759 78
Horses, wagons, etc.,	964 86
Sundry accounts due the company,	465 36
Office furniture,	581 53
Cash on hand,	4,187 14

Total assets, as per books of the company, \$171,165 52

LIABILITIES.

Capital stock,	\$125,000 00
Unpaid bills,	3,072 07

Total liabilities, as per books of the company, \$128,072 07
Profit and loss balance, 43,093 45

\$171,165 52

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$7,613 64	
For electricity bought,	2,544 49	
distribution,	3,628 58	
management,	8,036 98	
taxes,	2,358 77	
incidentals,	774 10	
	<hr/>	
	\$24,956 56	
Income from sale of electricity,		\$43,834 65
Balance to profit and loss,	18,878 09	
	<hr/>	<hr/>
	\$43,834 65	\$43,834 65

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$39,370 31
Balance of manufacturing account,		18,878 09
Dividends declared,	\$13,750 00	
Depreciation,	1,267 05	
Other items,	137 90	
Balance June 30, 1912,	43,093 45	
	<hr/>	<hr/>
	\$58,248 40	\$58,248 40

GREENFIELD ELECTRIC LIGHT AND POWER COMPANY.

ASSETS.

Real estate,	\$67,754 94
Steam plant,	149,061 58
Electric plant,	87,449 05
Electric lines,	197,226 33
Transformers,	30,303 19
Meters,	25,615 65
Arc lamps,	3,828 51
Water power plants,	176,683 06
Due for electricity,	16,750 00
Fuel on hand,	3,874 56
Incandescent lamps on hand,	2,471 89
Other materials on hand,	31,153 45
Fixtures, tools, etc., on hand,	3,556 51
Automobiles, etc.,	11,398 02
Sundry accounts-due the company,	16,132 83
Office furniture,	1,879 77
Cash on hand,	1,246 17
Notes receivable,	900 00
Interest prepaid,	745 81
Insurance,	2,401 40

Total assets, as per books of the company, \$830,432 72

LIABILITIES.

Capital stock,	\$500,000 00
Bonds issued,	100,000 00
Notes payable,	188,000 00
Unpaid bills,	10,417 85
Deposits,	20 00
Interest due but not paid,	375 00
Interest accrued but not due,	2,555 01
Amounts due from the company, not included above,	1,499 64

Total liabilities, as per books of the company, \$802,867 50
Profit and loss balance, 27,565 22

\$830,432 72

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$23,032 30	
For electricity bought,	12,771 48	
distribution,	29,364 37	
management,	15,940 89	
taxes,	9,171 95	
incidentals,	7,095 41	
	<hr/>	
	\$97,376 40	
Income from sale of electricity,		\$167,071 32
Balance to profit and loss,	69,694 92	
	<hr/>	
	\$167,071 32	\$167,071 32

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$25,101 55
Balance of manufacturing account,		69,694 92
Interest received,		45 00
Rents,		135 00
Other items of income,		1,525 77
Interest paid,	\$14,468 28	
Dividends declared,	24,750 00	
Depreciation,	16,175 50	
Loss on purchase of Wilcox & Halligan Plant,	13,000 00	
Other items,	543 24	
Balance June 30, 1912,	27,565 22	
	<u>\$96,502 24</u>	<u>\$96,502 24</u>

GREENFIELD GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$49,937 22
Machinery and manufacturing appliances,	54,815 64
Street mains,	78,704 67
Services,	41,025 08
Meters,	18,412 85
Due for gas,	2,950 29
Gas coal on hand,	3,563 95
Enrichers on hand,	229 71
Other materials on hand,	6,825 00
Stoves on hand,	2,707 42
Sundry accounts due the company,	4,941 18
Office furniture,	265 00
Cash on hand,	5,296 76
Interest prepaid,	814 28
Total assets, as per books of the company,	<u>\$270,489 05</u>

LIABILITIES.

Capital stock,	\$131,000 00
Bonds issued,	75,000 00
Notes payable,	58,000 00
Unpaid bills,	2,367 39
Interest due but not paid,	25 00
Interest accrued but not due,	7 00
Total liabilities, as per books of the company,	<u>\$266,399 39</u>
Profit and loss balance,	4,089 66
	<u>\$270,489 05</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$11,901 15	
For distribution,	2,316 67	
management,	4,836 33	
taxes,	2,818 66	
incidentals,	331 61	
	<u>\$22,204 42</u>	

	Dr.	Cr.
Income from sale of gas,		\$33,338 19
Balance to profit and loss,	\$11,133 77	
	<hr/>	<hr/>
	\$33,338 19	\$33,338 19

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$7,356 04
Balance of manufacturing account,		11,133 77
Interest paid,	\$6,365 05	
Dividends declared,	5,682 30	
Other items,	2,352 80	
Balance June 30, 1912,	4,089 66	
	<hr/>	<hr/>
	\$18,489 81	\$18,489 81

GREGORY, J. D.

(Princeton.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$266 68	
For management,	25 00	
taxes,	10	
	<hr/>	
	\$291 78	
Income from sale of gas,		\$398 70
Balance to profit and loss,	106 92	
	<hr/>	<hr/>
	\$398 70	\$398 70

HADLEY LIGHTING COMPANY.

ASSETS.

Real estate,	\$445 94
Machinery and manufacturing appliances,	878 88
Street mains and services,	473 45
Meters,	102 92
Due for gas,	22 15
Carbide on hand,	44 98
Cash on hand,	170 25

Total assets, as per books of the company, \$2,138 57

LIABILITIES.

Capital stock,	\$1,725 00
Notes payable,	224 99

Total liabilities, as per books of the company, \$1,949 99
Profit and loss balance, 188 58

\$2,138 57

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$175 76	
For distribution,	2 45	
management,	3 95	
taxes,	17 47	
incidentals,	1 37	
	<u>\$201 00</u>	
Income from sale of gas,		\$332 83
Balance to profit and loss,	131 83	
	<u>\$332 83</u>	<u>\$332 83</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$79 60
Balance of manufacturing account,		131 83
Jobbing,		1 63
Interest paid,	\$7 48	
Depreciation,	17 00	
Balance June 30, 1912,	188 58	
	<u>\$213 06</u>	<u>\$213 06</u>

HATFIELD GAS COMPANY.

ASSETS.

Real estate,	\$626 67
Machinery and manufacturing appliances,	967 70
Street mains,	5,189 96
Services,	218 04
Meters,	263 89
Due for gas,	41 38
Carbide on hand,	22 05
Fixtures on hand,	2 40
Cash on hand,	8 41

Total assets, as per books of the company,	\$7,340 50
Profit and loss balance,	112 58
	<u>\$7,453 08</u>

LIABILITIES.

Capital stock,	\$4,750 00
Notes payable,	2,400 00
Amounts due from the company, not included above,	303 08
Total liabilities, as per books of the company,	<u>\$7,453 08</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$259 20	
For distribution,	9 43	
taxes,	25 12	
	<u>\$293 75</u>	
Income from sale of gas,		\$116 70
Balance to profit and loss,		177 05
	<u>\$293 75</u>	<u>\$293 75</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$184 47
Balance of manufacturing account,	\$177 05	
Interest paid,	120 00	
Balance June 30, 1912,		112 58
	<u>\$297 05</u>	<u>\$297 05</u>

HAVERHILL ELECTRIC COMPANY.

ASSETS.

Real estate,	\$206,596 24
Steam plant,	212,100 03
Electric plant,	80,100 93
Electric lines,	205,856 25
Transformers,	56,772 71
Meters,	40,760 41
Arc lamps,	24,643 94
Work in process,	52,314 60
Due for electricity,	9,933 60
Fuel on hand,	1,182 77
Carbons on hand,	266 26
Incandescent lamps on hand,	1,883 56
Other materials on hand,	31,661 09
Motors on hand,	1,023 26
Fixtures, tools, etc., on hand,	5,995 21
Horses, wagons, etc.,	7,153 53
Sundry accounts due the company,	6,934 71
Office furniture,	7,948 28
Cash on hand,	31,353 28
Investments,	2,900 00
Total assets, as per books of the company,	<u>\$987,380 66</u>

LIABILITIES.

Capital stock,	\$446,800 00
Bonds issued,	85,000 00
Notes payable,	234,400 00
Unpaid bills,	7,288 13
Deposits,	3,253 25
Interest accrued but not due,	1,986 38
Reserved fund,	202 06
Premium on capital stock,	142,770 00
Amounts due from the company, not included above,	1,367 00
Total liabilities, as per books of the company,	<u>\$923,066 82</u>
Profit and loss balance,	64,313 84
	<u>\$987,380 66</u>

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$48,928 46	
For distribution,	22,845 83	
management,	34,692 67	
taxes,	15,339 72	
incidentals,	13,361 28	
	<u>\$135,167 96</u>	

	Dr.	Cr.
Income from sale of electricity,		\$214,193 63
other sources,		64 00
Balance to profit and loss,	\$79,089 67	
	<hr/>	<hr/>
	\$214,257 63	\$214,257 63

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$52,891 85
Balance of manufacturing account,		79,089 67
Interest received,		266 82
Rents,		533 21
Jobbing,		1,098 26
Other items of income,		594 94
Interest paid,	\$13,339 57	
Dividends declared,	35,744 00	
Depreciation,	15,303 15	
Other items,	5,774 19	
Balance June 30, 1912,	64,313 84	
	<hr/>	<hr/>
	\$134,474 75	\$134,474 75

HAVERHILL GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$150,912 85
Machinery and manufacturing appliances,	405,768 11
Street mains and services,	261,184 57
Street lamps,	12,894 50
Meters,	61,443 08
Due for gas,	16,278 29
Gas coal on hand,	4,573 60
Coke on hand,	1,761 08
Tar on hand,	3,259 35
Enrichers on hand,	4,759 19
Purifying materials on hand,	388 61
Other materials on hand,	27,373 06
Stoves on hand,	9,485 59
Fixtures, tools, etc., on hand,	16,684 39
Gas on hand,	583 07
Horses, wagons, etc.,	2,043 75
Sundry accounts due the company,	16,439 79
Office furniture,	1,900 20
Cash on hand,	9,025 21
Haverhill Gas Securities Company,	217,465 42
Interest and taxes prepaid,	2,569 77
Insurance,	2,326 20
Office building and land,	17,000 00
Stock, bonds and notes,	28,529 44
	<hr/>
Total assets, as per books of the company,	\$1,274,649 12

LIABILITIES.

Capital stock,	\$75,000 00
Notes payable,	288,500 00
Unpaid bills,	9,409 87

Deposits,	\$14,665 15
Reserved fund,	260,000 00
Depreciation fund,	141,695 69
Amounts due from the company, not included above,	4,665 26
Total liabilities, as per books of the company,	\$793,935 97
Profit and loss balance,	480,713 15
	<u>\$1,274,649 12</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$68,066 96	
For distribution,	32,360 13	
management,	31,632 66	
taxes,	14,747 29	
incidentals,	4,624 07	
	<u>\$151,431 11</u>	
Income from sale of gas,		\$208,889 67
residuals,		3,286 60
other sources,		5,106 13
Balance to profit and loss,	65,851 29	
	<u>\$217,282 40</u>	<u>\$217,282 40</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$438,064 33
Balance of manufacturing account,		65,851 29
Interest received,		315 49
Rents,		1,588 92
Jobbing,		45 20
Other items of income,		18 00
Interest paid,	\$13,343 17	
Other items,	11,826 91	
Balance June 30, 1912,	480,713 15	
	<u>\$505,883 23</u>	<u>\$505,883 23</u>

HUNTINGTON ELECTRIC LIGHT COMPANY.

ASSETS.

Steam plant,	\$2,000 00
Electric plant,	900 00
Electric lines,	800 00
Meters,	250 00
Arc lamps,	25 00
Due for electricity,	287 91
Incandescent lamps on hand,	25 69
Sundry accounts due the company,	277 80
Cash on hand,	2,516 57
Total assets, as per books of the company,	<u>\$7,082 97</u>

LIABILITIES.

Capital stock,	\$5,000 00
Unpaid bills,	4 00
Total liabilities, as per books of the company,	<u>\$5,004 00</u>
Profit and loss balance,	2,078 97
	<u>\$7,082 97</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$717 99	
For distribution,	106 09	
management,	111 56	
taxes,	91 70	
incidentals,	55 00	
	<u>\$1,082 34</u>	
Income from sale of electricity,		\$1,722 84
other sources,		274 35
Balance to profit and loss,	914 85	
	<u>\$1,997 19</u>	<u>\$1,997 19</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$1,611 37
Balance of manufacturing account,		914 85
Interest received,		61 89
Interest paid,	\$259 14	
Dividends declared,	250 00	
Balance June 30, 1912,	2,078 97	
	<u>\$2,588 11</u>	<u>\$2,588 11</u>

HYANNIS ACETYLENE GAS PLANT.

(Eugene Carpenter, Owner.)

ASSETS.

Real estate,	\$369 00
Machinery and manufacturing appliances,	1,432 67
Street mains,	4,091 80
Services,	485 90
Meters,	373 38
Due for gas,	1,145 53
Carbide on hand,	45 65
Sundry accounts due the company,	1,064 80
Cash on hand,	496 84
Total assets, as per books of the Company,	<u>\$9,505 57</u>

LIABILITIES.

Capital invested,	\$6,270 70
Amounts due from the Company, not included above,	2,915 72
Total liabilities, as per books of the Company,	<u>\$9,186 42</u>
Profit and loss balance,	319 15
	<u>\$9,505 57</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$3,424 18	
For distribution,	530 83	
management,	324 98	
	<u>\$4,279 99</u>	
Income from sale of gas,		\$3,548 44
Balance to profit and loss,		731 55
	<u>\$4,279 99</u>	<u>\$4,279 99</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$1,050 70
Balance of manufacturing account,	\$731 55	
Balance June 30, 1912,	319 15	
	<hr/>	<hr/>
	\$1,050 70	\$1,050 70

HYDE PARK ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$19,384 66
Electric plant,	42,308 54
Electric lines,	114,645 10
Transformers,	13,509 15
Meters,	11,371 92
Arc lamps,	13,000 39
Due for electricity,	4,220 23
Carbons on hand,	189 69
Incandescent lamps on hand,	1,201 49
Globes on hand,	27 86
Other materials on hand,	3,913 14
Motors on hand,	250 25
Fixtures, tools, etc., on hand,	200 00
Horses, wagons, etc.,	576 00
Office furniture and fittings,	2,809 85
Cash on hand,	11,952 12
Insurance,	515 00
Dividend in liquidation,	115,000 00
	<hr/>
Total assets, as per books of the company,	\$355,075 39

LIABILITIES.

Capital stock,	\$287,500 00
Notes payable,	28,000 00
Deposits,	971 30
Depreciation fund,	5,159 31
Amounts due from the company, not included above,	4,027 95
	<hr/>
Total liabilities, as per books of the company,	\$325,658 56
Profit and loss balance,	29,416 83
	<hr/>
	\$355,075 39

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$31,361 98	
For electricity bought,	4,874 13	
distribution,	16,061 19	
management,	10,031 39	
taxes,	8,249 78	
incidentals,	6,144 52	
	<hr/>	
	\$76,722 99	
Income from sale of electricity,		\$105,193 29
Balance to profit and loss,	28,470 30	
	<hr/>	<hr/>
	\$105,193 29	\$105,193 29

PROFIT AND LOSS BALANCE.

	Dr.	Cr.
Balance June 30, 1911,		\$18,779 19
Balance of manufacturing account,		28,470 30
Interest received,		349 75
Rents,		520 00
Other items of income,		5,787 40
Interest paid,	\$7,521 99	
Dividends declared,	10,062 50	
Depreciation,	5,101 20	
Other items,	1,804 12	
Balance June 30, 1912,	29,416 83	
	<hr/>	<hr/>
	\$53,906 64	\$53,906 64

IPSWICH GAS LIGHT COMPANY

ASSETS.

Real estate,	\$3,875 00
Machinery and manufacturing appliances,	13,391 92
Street mains,	7,816 22
Meters,	3,233 25
Due for gas,	2,879 13
Gas coal on hand,	9 70
Enrichers on hand,	350 00
Office furniture,	29 50
Cash on hand,	725 01
Investments,	1,200 00

Total assets, as per books of the company, \$33,509 73

LIABILITIES.

Capital stock,	\$16,000 00
Notes payable,	14,800 00
Unpaid dividends,	155 50

Total liabilities, as per books of the company, \$30,955 50
 Profit and loss balance, 2,554 23

\$33,509 73

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$3,067 27	
For distribution,	7 40	
management,	1,164 31	
taxes,	419 83	
	<hr/>	
	\$4,658 81	
Income from sale of gas,		\$6,236 33
other sources,		12 00
Balance to profit and loss,	1,589 52	
	<hr/>	<hr/>
	\$6,248 33	\$6,248 33

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$1,998 45
Balance of manufacturing account,		1,589 52
Rents,		220 00
Interest paid,	\$773 74	
Dividends declared,	480 00	
Balance June 30, 1912,	2,554 23	
	<hr/>	<hr/>
	\$3,807 97	\$3,807 97

LAWRENCE GAS COMPANY.

ASSETS.

Real estate (gas),	\$310,392 98
Machinery and manufacturing appliances (gas),	720,267 97
Street mains and services (gas),	683,571 34
Meters (gas),	156,388 71
Due for gas,	67,290 29
Gas coal on hand,	46,120 88
Coke on hand,	3,373 20
Tar on hand,	6,112 70
Ammonia on hand,	1,297 86
Enrichers on hand,	3,635 83
Purifying materials on hand,	2,345 68
Other gas materials on hand,	24,721 99
Stoves on hand,	7,339 93
Gas fixtures, tools, etc., on hand,	3,182 44
Real estate (electric),	23,993 81
Steam plant (electric),	76,766 26
Electric power plant,	606,200 49
Electric plant,	261,666 67
Electric lines,	401,957 85
Transformers,	38,218 23
Meters (electric),	48,699 63
Arc lamps,	39,547 21
Due for electricity,	40,571 94
Fuel on hand (electric),	3,398 84
Carbons on hand,	715 24
Incandescent lamps on hand,	8,181 73
Other electric materials on hand,	22,976 90
Motors,	13,861 96
Horses, wagons, etc.,	19,165 71
Sundry accounts due the company,	43,967 92
Office furniture,	6,291 17
Cash on hand,	85,194 93
New storehouse,	19,619 90
Office building,	50,118 10
Insurance,	4,500 00
Investments,	50 10
	<hr/>
Total assets, as per books of the company,	\$3,851,706 39

LIABILITIES.									
Capital stock, . . . . .	.	.	.	.	.	.	.	.	\$1,900,000 00
Bonds issued, . . . . .	.	.	.	.	.	.	.	.	300,000 00
Notes payable, . . . . .	.	.	.	.	.	.	.	.	660,000 00
Unpaid bills, . . . . .	.	.	.	.	.	.	.	.	19,796 84
Deposits, . . . . .	.	.	.	.	.	.	.	.	13,771 00
Interest accrued but not due, . . . . .	.	.	.	.	.	.	.	.	14,446 26
Reserved funds, . . . . .	.	.	.	.	.	.	.	.	36,058 92
Depreciation account, . . . . .	.	.	.	.	.	.	.	.	95,421 10
Premium on capital stock, . . . . .	.	.	.	.	.	.	.	.	414,987 13
Total liabilities, as per books of the company,									\$3,454,481 25
Profit and loss balance, . . . . .	.	.	.	.	.	.	.	.	397,225 14
									<u>\$3,851,706 39</u>

MANUFACTURING ACCOUNT.									
Operating expenses (gas):					DR.		CR.		
At works, . . . . .	.	.	.	\$209,521 00					
For distribution, . . . . .	.	.	.	36,003 00					
management, . . . . .	.	.	.	35,774 61					
taxes, . . . . .	.	.	.	43,881 66					
incidentals, . . . . .	.	.	.	8,192 34					
						\$333,372 61			
Operating expenses (electric):									
At station, . . . . .	.	.	.	\$70,336 03					
For distribution, . . . . .	.	.	.	44,481 06					
management, . . . . .	.	.	.	21,464 77					
taxes, . . . . .	.	.	.	26,900 43					
incidentals, . . . . .	.	.	.	6,726 54					
						169,908 83			
Income from sale of gas, . . . . .	.	.	.				\$400,504 73		
residuals, . . . . .	.	.	.				38,743 10		
sale of electricity, . . . . .	.	.	.				287,380 16		
other sources (electric), . . . . .	.	.	.				632 06		
Balance to profit and loss:									
Gas, . . . . .	.	.	.		105,875 22				
Electric, . . . . .	.	.	.		118,103 39				
						<u>\$727,260 05</u>		<u>\$727,260 05</u>	

PROFIT AND LOSS ACCOUNT.									
					DR.		CR.		
Balance June 30, 1911, . . . . .	.	.	.				\$372,655 93		
Balance of gas manufacturing account, . . . . .	.	.	.				105,875 22		
Balance of electric manufacturing account, . . . . .	.	.	.				118,103 39		
Interest received, . . . . .	.	.	.				1,947 08		
Rents, . . . . .	.	.	.				200 45		
Jobbing, . . . . .	.	.	.				1,413 64		
Interest paid, . . . . .	.	.	.		\$41,974 97				
Dividends declared, . . . . .	.	.	.		152,000 00				
Depreciation account, . . . . .	.	.	.		5,000 00				
Other items, . . . . .	.	.	.		3,995 60				
Balance June 30, 1912, . . . . .	.	.	.		397,225 14				
						<u>\$600,195 71</u>		<u>\$600,195 71</u>	

LEE ELECTRIC COMPANY.

ASSETS.

Street mains (gas),	\$500 00
Real estate,	14,258 14
Steam plant,	10,700 00
Electric plant,	4,000 00
Electric lines,	26,877 28
Transformers,	4,300 00
Meters (electric),	3,600 00
Due for electricity,	3,107 92
Fuel on hand,	2,800 00
Incandescent lamps on hand,	159 00
Other materials on hand,	47 20
Motors on hand,	45 00
Fixtures, tools, etc., on hand,	407 14
Horses, wagons, etc.,	147 57
Office furniture,	54 25
Cash on hand,	602 55
Total assets, as per books of the company,	<u>\$71,604 05</u>

LIABILITIES.

Capital stock,	\$30,000 00
Bonds issued,	30,000 00
Notes payable,	5,700 00
Interest accrued but not due,	418 32
Total liabilities, as per books of the company,	<u>\$66,118 32</u>
Profit and loss balance,	5,485 73
	<u>\$71,604 05</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$6,008 60	
For distribution,	2,192 63	
management,	1,103 26	
taxes,	523 83	
incidentals,	685 82	
	<u>\$10,514 14</u>	
Income from sale of electricity,		\$17,504 02
Balance to profit and loss,	6,989 88	
	<u>\$17,504 02</u>	<u>\$17,504 02</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$5,245 75
Balance of manufacturing account,		6,989 88
Rents,		50 00
Interest paid,	\$1,739 16	
Dividends declared,	1,500 00	
Depreciation,	3,560 74	
Balance June 30, 1912,	5,485 73	
	<u>\$12,285 63</u>	<u>\$12,285 63</u>

Meters,	\$17,143 99
Arc lamps,	6,495 76
Due for electricity,	7,251 15
Fuel on hand,	4,189 71
Carbons on hand,	27 22
Incandescent lamps on hand,	851 30
Other materials on hand,	591 39
Fixtures, tools, etc., on hand,	32 60
Horses, wagons, etc.,	406 74
Sundry accounts due the company,	1,671 27
Office furniture,	1,231 26
Cash on hand,	2,314 30
<hr/>	
Total assets, as per books of the company,	\$311,120 78

LIABILITIES.

Capital stock,	\$80,000 00
Bonds issued,	70,000 00
Notes payable,	128,500 00
Unpaid bills,	15,515 64
Deposits,	870 50
Unpaid dividends,	2,400 00
Depreciation fund,	7,053 94
Amounts due from the company, not included above,	982 97
<hr/>	
Total liabilities, as per books of the company,	\$305,323 05
Profit and loss balance,	5,797 73
<hr/>	
	\$311,120 78

MANUFACTURING ACCOUNT.

		Dr.	Cr.
Operating expenses:			
At station,	\$22,426 96		
For distribution,	7,745 51		
management,	8,566 87		
taxes,	4,417 39		
incidentals,	2,915 26		
<hr/>		\$46,071 99	
Income from sale of electricity,			\$64,477 02
Balance to profit and loss,		18,405 03	
		<hr/>	<hr/>
		\$64,477 02	\$64,477 02

PROFIT AND LOSS ACCOUNT.

		Dr.	Cr.
Balance June 30, 1911,			\$5,548 94
Balance of manufacturing account,			18,405 03
Interest received,			52 44
Interest paid,	\$10,194 61		
Dividends declared,	8,000 00		
Other items,	14 07		
Balance June 30, 1912,	5,797 73		
<hr/>		<hr/>	<hr/>
		\$24,006 41	\$24,006 41

LEOMINSTER GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$14,800 05
Machinery and manufacturing appliances,	65,121 27
Street mains,	105,932 63
Services,	13,416 89
Meters,	17,150 64
Due for gas,	5,354 61
Gas coal on hand,	2,935 62
Enrichers on hand,	454 45
Purifying materials on hand,	40 08
Other materials on hand,	31 67
Fixtures, tools, etc., on hand,	4,697 53
Horses, wagons, etc.,	1,172 32
Sundry accounts due the company,	2,597 34
Office furniture,	2,170 72
Cash on hand,	3,068 65
Investments,	1,200 00
Total assets, as per books of the company,	<u>\$240,144 47</u>

LIABILITIES.

Capital stock,	\$50,000 00
Bonds issued,	50,000 00
Notes payable,	111,000 00
Unpaid bills,	3,459 54
Deposits,	1,268 08
Unpaid dividends,	625 00
Interest accrued but not due,	416 67
Depreciation fund,	4,324 89
Amounts due from the company, not included above,	721 60
Total liabilities, as per books of the company,	<u>\$221,815 78</u>
Profit and loss balance,	18,328 69
	<u>\$240,144 47</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$17,159 07	
For distribution,	4,222 28	
management,	8,520 78	
taxes,	3,545 74	
incidentals,	1,446 22	
	<u>\$34,894 09</u>	
Income from sale of gas,		\$44,109 84
Balance to profit and loss,	9,215 75	
	<u>\$44,109 84</u>	<u>\$44,109 84</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$19,583 00
Balance of manufacturing account,		9,215 75
Interest received,		44 25
Rents,		535 30
Jobbing,		260 22
Other items of income,		159 95

	Dr.	Cr.
Interest paid,	\$8,946 24	
Dividends declared,	2,500 00	
Other items,	28 54	
Balance June 30, 1912,	18,328 69	
	<hr/>	<hr/>
	\$29,798 47	\$29,798 47

LEXINGTON GAS COMPANY.

Assets.		
Street mains,		\$21,358 85
Services,		778 88
Meters,		1,741 39
Due for gas,		571 86
Fixtures, tools, etc., on hand,		349 81
Sundry accounts due the company,		722 57
Office furniture,		125 44
Cash on hand,		4,878 31
Notes receivable,		10,300 00
		<hr/>
Total assets, as per books of the company,		\$40,827 11

LIABILITIES.		
Capital stock,		\$40,000 00
Unpaid bills,		624 16
Deposits,		60 00
Amounts due from the company, not included above,		122 96
		<hr/>
Total liabilities, as per books of the company,		\$40,807 12
Profit and loss balance,		19 99
		<hr/>
		\$40,827 11

MANUFACTURING ACCOUNT.		Dr.	Cr.
Operating expenses:			
For gas bought,	\$2,813 14		
distribution,	477 06		
management,	1,727 87		
taxes,	65 71		
incidentals,	57 23		
	<hr/>	\$5,141 01	
Income from sale of gas,			\$4,167 60
Balance to profit and loss,			973 41
		<hr/>	<hr/>
		\$5,141 01	\$5,141 01

PROFIT AND LOSS ACCOUNT.		Dr.	Cr.
Balance June 30, 1911,		\$595 51	
Balance of manufacturing account,		973 41	
Interest received,			\$810 70
Jobbing,			474 70
Assessment on capital stock,			6,800 00
Interest paid,		119 49	
Depreciation,		6,377 00	
Balance June 30, 1912,		19 99	
		<hr/>	<hr/>
		\$8,085 40	\$8,085 40

LOVELAND, WILLIAM O.

(Ashby.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station, \$485 10		
For distribution, 69 00		
taxes, 50 82		
	<u>\$604 92</u>	
Income from sale of electricity,		\$1,214 47
Balance to profit and loss,	609 55	
	<u>\$1,214 47</u>	<u>\$1,214 47</u>

THE LOWELL ELECTRIC LIGHT CORPORATION.

ASSETS.

Real estate,	\$272,383 76
Steam plant,	450,571 58
Electric plant,	256,074 72
Electric lines,	656,626 96
Transformers,	125,052 19
Meters,	79,369 26
Arc lamps,	51,373 44
Due for electricity,	22,185 10
Fuel on hand,	20,372 95
Carbons on hand,	178 90
Incandescent lamps on hand,	3,700 91
Other materials on hand,	33,408 01
Motors on hand,	3,751 89
Fixtures, tools, etc., on hand,	2,590 83
Automobiles,	7,373 25
Sundry accounts due the company,	8,751 86
Office furniture,	1,057 29
Cash on hand,	71,199 07
Insurance, interest and taxes prepaid,	4,423 17
Bond sinking fund,	21,952 96
Premium on bonds retired,	4,753 05

Total assets, as per books of the company, \$2,097,151 15

LIABILITIES.

Capital stock,	\$1,023,000 00
Bonds issued,	76,000 00
Notes payable,	195,000 00
Unpaid bills,	7,446 29
Deposits,	2,659 75
Premium on capital stock,	265,594 25
Interest accrued but not due,	722 21
Bond sinking fund,	144,181 01

Replacement reserve,	\$197,994 69
Other reserved funds,	5,452 54
Amounts due from the company, not included above,	19,080 28
<hr/>	
Total liabilities, as per books of the company,	\$1,937,131 02
Profit and loss balance,	160,020 13
<hr/>	
	\$2,097,151 15

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$94,431 19	
For distribution,	71,446 89	
management,	47,129 61	
taxes,	39,964 49	
incidentals,	5,532 85	
	<hr/>	
	\$258,505 03	
Income from sale of electricity,		\$396,716 39
Balance to profit and loss,	138,211 36	
	<hr/>	<hr/>
	\$396,716 39	\$396,716 39

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$163,211 73
Balance of manufacturing account,		138,211 36
Interest received,		934 50
Jobbing,		1,994 62
Interest paid,	\$11,542 08	
Dividends declared,	81,840 00	
Sinking fund,	6,950 00	
Reserve fund,	44,000 00	
Balance June 30, 1912,	160,020 13	
	<hr/>	<hr/>
	\$304,352 21	\$304,352 21

LOWELL GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$1,325,129 12
Machinery and manufacturing appliances,	123,233 72
Street mains, services and meters,	239,857 27
Gas arc lamps,	24,182 14
Due for gas,	12,643 63
Gas coal on hand,	51,463 62
Coke on hand,	5,607 94
Tar on hand,	8,065 80
Enrichers on hand,	5,278 77
Purifying materials on hand,	2,464 00
Ammoniacal liquor on hand,	1,342 94
Other materials on hand,	40,708 65
Works in process,	178,367 70
Sundry accounts due the company,	27,619 91
Cash on hand,	38,460 43
Insurance,	2,227 76
Investments,	88,038 25
	<hr/>
Total assets, as per books of the company,	\$2,174,691 65

LIABILITIES.									
Capital stock,									\$1,000,000 00
Notes payable,									225,000 00
Unpaid bills,									20,519 57
Deposits,									6,962 25
Interest accrued but not due,									1,770 52
Premium on capital stock,									417,157 91
Amounts due from the company, not included above,									13,373 17
Total liabilities, as per books of the company,									\$1,684,783 42
Profit and loss balance,									489,908 23
									<u>\$2,174,691 65</u>

MANUFACTURING ACCOUNT.									
Operating expenses:						Dr.			Cr.
At works,			\$253,111 06						
For distribution,			101,600 01						
management,			26,714 13						
taxes,			55,177 96						
incidentals,			11,591 85						
							\$448,195 01		
Income from sale of gas,									\$528,666 54
residuals,									73,049 08
other sources,									14,309 49
Balance to profit and loss,							167,830 10		
							<u>\$616,025 11</u>		<u>\$616,025 11</u>

PROFIT AND LOSS ACCOUNT.									
						Dr.			Cr.
Balance June 30, 1911,									\$479,775 09
Balance of manufacturing account,									167,830 10
Interest received,									252 44
Rents,									4,637 11
Jobbing,									3,173 04
Other items of income,									3,798 38
Interest paid,						\$7,264 62			
Dividends declared,						120,000 00			
Depreciation,						34,542 81			
Other items,						7,750 50			
Balance June 30, 1912,						489,908 23			
						<u>\$659,466 16</u>			<u>\$659,466 16</u>

LUDLOW MANUFACTURING ASSOCIATES.

MANUFACTURING ACCOUNT TO DECEMBER 31, 1911.

Operating expenses:						Dr.			Cr.
At station,			\$1,350 17						
For distribution,			983 36						
management,			200 00						
taxes,			301 50						
incidentals,			65 00						
							\$2,900 03		
Income from sale of electricity,									\$4,432 65
other sources,									12 00
Balance to profit and loss,							1,544 62		
							<u>\$4,444 65</u>		<u>\$4,444 65</u>

LUDLOW MANUFACTURING COMPANY.

MANUFACTURING ACCOUNT FROM JANUARY 1, 1912.

Operating expenses:	Dr.	Cr.
For current bought,	\$3,800 01	
distribution,	1,435 33	
taxes,	131 59	
	<hr/>	
	\$5,368 93	
Income from sale of electricity,		\$6,812 90
Balance to profit and loss,	1,445 97	
	<hr/>	<hr/>
	\$6,812 90	\$6,812 90

LYNN GAS AND ELECTRIC COMPANY.

ASSETS.

Real estate (gas),	\$419,350 02
Machinery and manufacturing appliances (gas),	650,609 56
Street mains and services (gas),	541,374 77
Meters (gas),	117,633 73
Due for gas,	34,119 46
Gas coal on hand,	21,810 65
Coke on hand,	3,846 08
Tar on hand,	3,225 00
Ammoniacal liquor on hand,	695 20
Enrichers on hand,	1,300 64
Purifying materials on hand,	4,505 81
Other gas materials on hand,	47,192 37
Stoves on hand,	8,374 90
Fixtures, tools, etc., on hand,	765 18
Real estate (electric),	165,416 43
Steam plant (electric),	296,681 66
Electric plant,	205,626 16
Electric lines,	835,214 67
Transformers,	46,161 40
Meters (electric),	90,343 67
Arc lamps,	9,244 22
Due for electricity,	30,968 02
Fuel on hand (electric),	6,323 76
Carbons on hand,	537 33
Oil and waste on hand,	143 96
Incandescent lamps on hand,	1,075 11
Globes on hand,	100 08
Other electric materials on hand,	37,571 23
Motors on hand,	2,826 85
Electric fixtures on hand,	486 49
Horses, wagons, etc.,	20,360 63
Sundry accounts due the company,	8,695 08
Office buildings,	90,952 95
Cash on hand,	444,601 86
Other materials on hand,	1,627 82
Insurance,	4,053 36
Investments,	100 00
	<hr/>
Total assets, as per books of the company,	\$4,153,916 11

LIABILITIES.

Capital stock,	\$1,182,500 00
Unpaid bills,	72,073 59
Deposits,	17,214 35
Surplus invested in plant,	1,444,725 53
Premium on capital stock,	856,598 55
Reserved funds,	50,741 29
Depreciation fund,	107,863 98

Total liabilities, as per books of the company,	\$3,731,717 29
Profit and loss balance,	422,198 82

\$4,153,916 11

MANUFACTURING ACCOUNT.

Operating expenses (gas):	Dr.	Cr.
At works,	\$241,749 50	
For distribution,	86,716 15	
management,	24,663 12	
taxes,	52,874 80	
incidentals,	8,220 63	
	<hr/>	
	\$414,224 20	
Operating expenses (electric):		
At station,	\$89,340 33	
For distribution,	74,472 58	
management,	20,064 20	
taxes,	52,407 39	
incidentals,	8,754 70	
	<hr/>	
	245,039 20	
Income from sale of gas,		\$541,838 68
residuals,		38,970 69
sale of electricity,		439,346 88
Balance to profit and loss:		
Gas,	166,585 17	
Electric,	194,307 68	
	<hr/>	
	\$1,020,156 25	\$1,020,156 25

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$356,205 05
Balance of gas manufacturing account,		166,585 17
Balance of electric manufacturing account,		194,307 68
Interest received,		8,653 22
Rents,		4,181 62
Other items of income,		12,091 70
Interest paid,	\$410 55	
Dividends declared,	189,200 00	
Amount carried to surplus invested in plant account,	60,334 79	
Reserve for replacements,	21,088 71	
Depreciation,	7,158 51	
Depreciation fund,	31,633 06	
Reserve for accident insurance,	10,000 00	
Balance June 30, 1912,	422,198 82	
	<hr/>	
	\$742,024 44	\$742,024 44

MALDEN ELECTRIC COMPANY.

ASSETS.									
Real estate, . . . . .	.	.	.	.	.	.	.	.	\$203,260 24
Steam plant, . . . . .	.	.	.	.	.	.	.	.	197,415 11
Electric plant, . . . . .	.	.	.	.	.	.	.	.	115,435 46
Electric lines, . . . . .	.	.	.	.	.	.	.	.	437,497 74
Transformers, . . . . .	.	.	.	.	.	.	.	.	65,420 74
Meters, . . . . .	.	.	.	.	.	.	.	.	84,240 90
Arc lamps, . . . . .	.	.	.	.	.	.	.	.	17,802 55
Works in process, . . . . .	.	.	.	.	.	.	.	.	138,352 33
Due for electricity, . . . . .	.	.	.	.	.	.	.	.	22,515 11
Fuel on hand, . . . . .	.	.	.	.	.	.	.	.	1,400 01
Carbons on hand, . . . . .	.	.	.	.	.	.	.	.	334 14
Incandescent lamps on hand, . . . . .	.	.	.	.	.	.	.	.	5,350 17
Other materials on hand, . . . . .	.	.	.	.	.	.	.	.	26,960 29
Motors on hand, . . . . .	.	.	.	.	.	.	.	.	1,247 29
Fixtures, tools, etc., on hand, . . . . .	.	.	.	.	.	.	.	.	5,143 74
Horses, wagons, etc., . . . . .	.	.	.	.	.	.	.	.	18,888 78
Sundry accounts due the company, . . . . .	.	.	.	.	.	.	.	.	31,277 37
Office furniture, . . . . .	.	.	.	.	.	.	.	.	9,787 30
Cash on hand, . . . . .	.	.	.	.	.	.	.	.	20,592 83
Reserve fund, . . . . .	.	.	.	.	.	.	.	.	26,950 62
Investments, . . . . .	.	.	.	.	.	.	.	.	4,000 00
Total assets, as per books of the company,									\$1,433,872 72

LIABILITIES.									
Capital stock, . . . . .	.	.	.	.	.	.	.	.	\$525,000 00
Bonds issued, . . . . .	.	.	.	.	.	.	.	.	100,000 00
Notes payable, . . . . .	.	.	.	.	.	.	.	.	423,225 00
Unpaid bills, . . . . .	.	.	.	.	.	.	.	.	21,071 13
Deposits, . . . . .	.	.	.	.	.	.	.	.	9,875 00
Premium on capital stock, . . . . .	.	.	.	.	.	.	.	.	144,500 00
Interest due but not paid, . . . . .	.	.	.	.	.	.	.	.	200 00
Interest accrued but not due, . . . . .	.	.	.	.	.	.	.	.	4,171 13
Reserved fund, . . . . .	.	.	.	.	.	.	.	.	624 18
Depreciation fund, . . . . .	.	.	.	.	.	.	.	.	15,000 00
Amounts due from the company, not included above, . . . . .	.	.	.	.	.	.	.	.	3,845 82
Total liabilities, as per books of the company,									\$1,247,512 26
Profit and loss balance, . . . . .	.	.	.	.	.	.	.	.	186,360 46
									\$1,433,872 72

MANUFACTURING ACCOUNT.

Operating expenses:				DR.	CR.
At station, . . . . .	.	.	\$61,270 70		
For distribution, . . . . .	.	.	61,860 09		
management, . . . . .	.	.	48,532 87		
taxes, . . . . .	.	.	21,414 56		
incidentals, . . . . .	.	.	12,988 66		
				\$206,066 88	
Income from sale of electricity, . . . . .	.	.			\$319,511 99
other sources, . . . . .	.	.			5,278 84
Balance to profit and loss, . . . . .	.	.		118,723 95	
				\$324,790 83	\$324,790 83

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$176,799 10
Balance of manufacturing account,		118,723 95
Interest received,		1,420 78
Rents,		141 35
Jobbing,		4,514 76
Other items of income,		4,724 85
Interest paid,	\$19,375 85	
Dividends declared,	78,750 00	
Depreciation fund,	17,751 64	
Other items,	4,086 84	
Balance June 30, 1912,	186,360 46	
	<u>\$306,324 79</u>	<u>\$306,324 79</u>

MALDEN AND MELROSE GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$452,021 03
Machinery and manufacturing appliances,	626,818 17
Street mains,	743,173 95
Services,	101,336 79
Meters,	189,373 14
Work in process,	22,184 09
Due for gas,	7,905 03
Gas coal on hand,	23,426 03
Coke on hand,	1,901 00
Tar on hand,	1,262 05
Ammonia on hand,	431 60
Enrichers on hand,	1,710 76
Purifying materials on hand,	1,033 28
Other materials on hand,	50,902 67
Stoves on hand,	6,633 52
Fixtures, tools, etc., on hand,	9,433 32
Horses, wagons, etc.,	22,309 31
Sundry accounts due the company,	90,374 10
Office furniture,	13,650 62
Cash on hand,	50,208 70
Notes receivable,	28,000 00
Investments,	2,900 00
Total assets, as per books of the company,	<u>\$2,446,989 16</u>

LIABILITIES.

Capital stock,	\$1,584,000 00
Notes payable,	445,000 00
Unpaid bills,	19,291 22
Deposits,	11,500 00
Interest accrued but not due,	3,585 25
Reserved funds,	42,405 32
Premium on capital stock,	296,713 62
Amounts due from the company, not included above,	2,067 79
Total liabilities, as per books of the company,	<u>\$2,404,563 20</u>
Profit and loss balance,	42,425 96
	<u>\$2,446,989 16</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$202,187 92	
For gas bought,	513 57	
distribution,	46,820 04	
management,	48,417 02	
taxes,	48,381 84	
incidentals,	13,002 11	
	<hr/>	
	\$359,322 50	
Income from sale of gas,		\$459,444 65
residuals,		25,803 03
other sources,		1,072 66
Balance to profit and loss,	126,997 84	
	<hr/>	<hr/>
	\$486,320 34	\$486,320 34

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$40,974 00
Balance of manufacturing account,		126,997 84
Interest received,		5,481 05
Rents,		577 16
Other items of income,		1,527 38
Interest paid,	\$16,139 98	
Dividends declared,	110,880 00	
Depreciation,	2,726 76	
Other items,	3,384 73	
Balance June 30, 1912,	42,425 96	
	<hr/>	<hr/>
	\$175,557 43	\$175,557 43

MANCHESTER ELECTRIC COMPANY.

ASSETS.

Real estate,	\$14,793 76
Electric plant,	7,990 00
Electric lines,	140,254 21
Transformers,	7,467 52
Meters,	5,540 69
Due for electricity,	3,131 70
Sundry accounts due the company,	233 17
Office furniture,	100 00
Cash on hand,	4,636 20
	<hr/>
Total assets, as per books of the company,	\$184,147 25
Profit and loss balance,	2,845 36
	<hr/>
	\$186,992 61

LIABILITIES.

Capital stock,	\$116,500 00
Notes payable,	57,000 00
Unpaid bills,	1,592 01
Deposits,	618 10
Interest accrued but not due,	1,282 50
Depreciation fund,	9,500 00
Amounts due from the company, not included above,	500 00
	<hr/>
Total liabilities, as per books of the company,	\$186,992 61

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$50 00	
For current bought,	10,836 00	
distribution,	1,726 78	
management,	2,406 12	
taxes,	906 66	
incidentals,	190 00	
	<hr/>	
	\$16,115 56	
Income from sale of electricity,		\$32,628 20
Balance to profit and loss,.	16,512 64	
	<hr/>	<hr/>
	\$32,628 20	\$32,628 20

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$13,609 15	
Balance of manufacturing account,		\$16,512 64
Interest received,		82 23
Interest paid,	2,979 43	
Depreciation fund,	2,800 00	
Other items,	51 65	
Balance June 30, 1912,		2,845 36
	<hr/>	<hr/>
	\$19,440 23	\$19,440 23

MARION GAS COMPANY.

ASSETS.

Real estate (gas),	\$3,100 00
Machinery and manufacturing appliances (gas),	3,307 05
Street mains (gas),	15,559 21
Meters (gas),	468 69
Due for gas,	1,382 98
Carbide on hand,	157 50
Other gas materials on hand,	261 00
Gas fixtures on hand,	195 00
Electric plant,	11,261 20
Electric lines,	35,273 65
Transformers,	1,834 60
Meters (electric),	2,423 60
Due for electricity,	2,681 79
Incandescent lamps on hand,	329 65
Other electric materials on hand,	32 20
Sundry accounts due the company,	35 50
Cash on hand,	2,707 11
	<hr/>
Total assets, as per books of the company,	\$81,010 73

LIABILITIES.

Capital stock,	\$28,900 00
Notes payable,	40,200 00
Unpaid bills,	626 50
Interest accrued but not due,	328 40
	<hr/>
Total liabilities, as per books of the company,	\$70,054 90
Profit and loss balance,	10,955 83
	<hr/>
	\$81,010 73

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
At works,	\$3,699 41	
For distribution,	732 62	
management,	441 70	
taxes,	116 60	
incidentals,	50 00	
	<u>\$5,040 33</u>	
Operating expenses (electric):		
At station,	\$182 77	
For current bought,	\$7,366 55	
distribution,	1,366 99	
management,	933 41	
taxes,	264 60	
incidentals,	230 36	
	<u>10,344 68</u>	
Income from sale of gas,		\$6,571 58
sale of electricity,		15,745 31
Balance to profit and loss:		
Gas,	1,531 25	
Electric,	5,400 63	
	<u>\$22,316 89</u>	<u>\$22,316 89</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$4,273 04
Balance of gas manufacturing account,		1,531 25
Balance of electric manufacturing account,		5,400 63
Jobbing,		30 43
Other items of income,		1,200 00
Interest paid,	\$1,479 52	
Balance June 30, 1912,	10,955 83	
	<u>\$12,435 35</u>	<u>\$12,435 35</u>

MARLBOROUGH ELECTRIC COMPANY.

ASSETS.

Real estate,	\$27,807 92
Steam plant,	65,786 48
Electric plant,	70,953 73
Electric lines,	193,444 58
Transformers,	25,057 03
Meters,	23,662 91
Due for electricity,	13,974 44
Fuel on hand,	708 97
Incandescent lamps on hand,	1,631 38
Other materials on hand,	8,735 46
Motors on hand,	505 04
Fixtures, tools, etc., on hand,	1,043 89
Horses, wagons, etc.,	3,235 00
Sundry accounts due the company,	10,141 54
Office furniture,	2,194 00
Cash on hand,	18,538 13
Cash reserve for redemption of bonds,	9,200 00

Notes receivable,	\$2,580 50
Insurance and interest prepaid,	2,495 93
Investments,	2,068 78

Total assets, as per books of the company, \$483,765 71

LIABILITIES.

Capital stock,	\$200,000 00
Bonds issued,	9,200 00
Notes payable,	210,000 00
Unpaid bills,	13,912 86
Interest accrued but not due,	2,245 49
Amounts due from the company, not included above,	2,934 49

Total liabilities, as per books of the company, \$438,292 84
Profit and loss balance, 45,472 87

\$483,765 71

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$10,269 01	
For current bought,	24,270 32	
distribution,	14,492 49	
management,	9,363 41	
taxes,	8,458 22	
incidentals,	1,907 99	
	<hr/>	
	\$68,761 44	
Income from sale of electricity,		\$108,756 63
Balance to profit and loss,	39,995 19	
	<hr/>	<hr/>
	\$108,756 63	\$108,756 63

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$46,674 74
Balance of manufacturing account,		39,995 19
Interest received,		942 41
Rents,		205 94
Jobbing,		1,732 60
Other items of income,		783 69
Interest paid,	\$11,947 03	
Dividends declared,	20,000 00	
Depreciation,	10,929 11	
Other items,	1,985 56	
Balance June 30, 1912,	45,472 87	
	<hr/>	<hr/>
	\$90,334 57	\$90,334 57

MARLBORO-HUDSON GAS COMPANY.

ASSETS.

Real estate,	\$31,629 56
Machinery and manufacturing appliances,	75,722 78
Street mains,	154,142 98
Services,	19,700 99
Meters,	26,343 42
Due for gas,	3,875 48

Gas coal on hand,	\$3,582 02
Coke on hand,	422 52
Tar on hand,	90 45
Carbon on hand,	58 03
Other materials on hand,	6,290 34
Stoves on hand,	2,576 57
Fixtures, tools, etc., on hand,	1,881 30
Horses, wagons, etc.,	380 00
Sundry accounts due the company,	9,705 87
Office furniture,	650 00
Cash on hand,	12,295 74
Interest prepaid,	1,085 35
Insurance,	121 21
Work in process,	590 42
Total assets, as per books of the company,	\$351,145 03

LIABILITIES.

Capital stock,	\$130,000 00
Bonds issued,	50,000 00
Notes payable,	121,000 00
Unpaid bills,	11,816 79
Deposits,	253 37
Interest accrued but not due,	832 12
Amounts due from the company, not included above,	900 00
Total liabilities, as per books of the company,	\$314,802 28
Profit and loss balance,	36,342 75
	\$351,145 03

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$29,713 19	
For distribution,	3,981 29	
management,	5,344 94	
taxes,	3,572 64	
incidentals,	285 36	
	\$42,897 42	
Income from sale of gas,		\$47,903 07
residuals,		5,473 82
other sources,		612 00
Balance to profit and loss,	11,091 47	
	\$53,988 89	\$53,988 89

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$37,677 35
Balance of manufacturing account,		11,091 47
Interest received,		246 25
Jobbing,		7,151 20
Interest paid,	\$6,935 96	
Dividends declared,	9,100 00	
Depreciation,	2,452 96	
Other items,	1,334 60	
Balance June 30, 1912,	36,342 75	
	\$56,166 27	\$56,166 27

MAYNARD.

(See AMERICAN WOOLEN COMPANY.)

MIDDLETON ELECTRIC LIGHT COMPANY.

ASSETS.

Electric lines,	\$2,460	23
Transformers,	142	18
Meters,	158	56
Due for electricity,	43	05
Other materials on hand,	51	98
Cash on hand,	79	40

Total assets, as per books of the company,	.	.	.	.	\$2,935	40
Profit and loss balance,	.	.	.	.	678	53
					\$3,613	93

LIABILITIES.

[illegible]

Total liabilities, as per books of the company,	\$3,613 93
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MANUFACTURING ACCOUNT.

Operating expenses:				DR.	CR.
For current bought,	.	.	\$229 26		
distribution,	.	.	44 71		
management,	.	.	90 82		
incidentals,	.	.	278 00		
				\$642 79	
Income from sale of electricity,	.	.	.		\$311 40
Balance to profit and loss,	.	.	.		331 39
				\$642 79	\$642 79

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$257 14	
Balance of manufacturing account,	331 39	
Interest paid,	90 00	
Balance June 30, 1912,		\$678 53
	<hr/>	<hr/>
	\$678 53	\$678 53

MILFORD ELECTRIC LIGHT AND POWER COMPANY.

ASSETS.

[illegible]

Arc lamps,	\$2,445 94
Due for electricity,	3,480 70
Carbons on hand,	17 60
Incandescent lamps on hand,	503 87
Other materials on hand,	57 14
Fixtures, tools, etc., on hand,	721 06
Sundry accounts due the company,	834 66
Office furniture,	499 20
Cash on hand,	174 05
Investments,	12,402 33

Total assets, as per books of the company, **\$112,863 75**

LIABILITIES.

Capital stock,	\$40,000 00
Bonds issued,	40,000 00
Notes payable,	17,800 00
Unpaid bills,	2,976 63
Deposits,	134 00
Unpaid dividends,	1,000 00
Interest accrued but not due,	166 67
Reserved fund,	2,649 15
Depreciation fund,	3,945 02
Amounts due from the company, not included above,	911 26

Total liabilities, as per books of the company, **\$109,582 73**
Profit and loss balance, **3,281 02**
\$112,863 75

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$228 89	
For current bought,	13,383 96	
distribution,	4,441 49	
management,	4,239 47	
taxes,	1,566 04	
incidentals,	693 76	
	\$24,553 61	
Income from sale of electricity,		\$30,528 85
Balance to profit and loss,	5,975 24	
	\$30,528 85	\$30,528 85

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$3,755 07
Balance of manufacturing account,		5,975 24
Rents,		1,178 79
Other items of income,		10 93
Interest paid,	\$2,990 13	
Dividends declared,	4,400 00	
Other items,	248 88	
Balance June 30, 1912,	3,281 02	
	\$10,920 03	\$10,920 03

MILFORD GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$16,807 91
Machinery and manufacturing appliances,	25,750 33
Street mains,	46,821 67
Services,	1,730 39
Meters,	5,728 14
Due for gas,	3,346 17
Gas coal on hand,	3,175 00
Coke on hand,	544 80
Tar on hand,	153 00
Enrichers on hand,	214 50
Purifying materials on hand,	43 11
Stoves, fixtures, tools, etc., on hand,	4,999 11
Horses, wagons, etc.,	1,024 41
Sundry accounts due the company,	1,820 47
Office furniture,	1,061 65
Cash on hand,	1,169 38
Total assets, as per books of the company,	<u>\$114,390 04</u>

LIABILITIES.

Capital stock,	\$72,300 00
Notes payable,	34,600 00
Unpaid bills,	1,090 79
Deposits,	365 00
Amounts due from the company, not included above,	71 40
Total liabilities, as per books of the company,	<u>\$108,427 19</u>
Profit and loss balance,	5,962 85
	<u>\$114,390 04</u>

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At works,	\$20,152 84	
For distribution,	3,076 37	
management,	5,132 31	
taxes,	2,205 20	
incidentals,	1,004 71	
	<u>\$31,571 43</u>	
Income from sale of gas,		\$30,402 91
residuals,		4,180 72
Balance to profit and loss,	3,012 20	
	<u>\$34,583 63</u>	<u>\$34,583 63</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$10,117 18
Balance of manufacturing account,		3,012 20
Interest paid,	\$1,809 67	
Dividends declared,	1,084 50	
Depreciation,	2,889 58	
Other items,	1,382 78	
Balance June 30, 1912,	5,962 85	
	<u>\$13,129 38</u>	<u>\$13,129 38</u>

MILL RIVER ELECTRIC LIGHT COMPANY.

(Williamsburg.)

ASSETS.									
Real estate,	.	.	.	.	.	.	.	.	\$8,239 09
Steam plant,	.	.	.	.	.	.	.	.	3,715 80
Electric plant,	.	.	.	.	.	.	.	.	4,157 49
Electric lines,	.	.	.	.	.	.	.	.	11,964 53
Transformers,	.	.	.	.	.	.	.	.	1,413 81
Meters,	.	.	.	.	.	.	.	.	2,755 39
Due for electricity,	.	.	.	.	.	.	.	.	1,413 75
Sundry accounts due the company,	.	.	.	.	.	.	.	.	23 46
Office furniture,	.	.	.	.	.	.	.	.	109 11
Cash on hand,	.	.	.	.	.	.	.	.	541 61
Investments,	.	.	.	.	.	.	.	.	500 00
Total assets, as per books of the company,									\$34,834 04

LIABILITIES.									
Capital stock,	.	.	.	.	.	.	.	.	\$15,000 00
Bonds issued,	.	.	.	.	.	.	.	.	12,000 00
Notes payable,	.	.	.	.	.	.	.	.	5,000 00
Unpaid bills,	.	.	.	.	.	.	.	.	1,297 19
Unpaid dividends,	.	.	.	.	.	.	.	.	375 00
Interest accrued but not due,	.	.	.	.	.	.	.	.	180 00
Amounts due from the company, not included above,	.	.	.	.	.	.	.	.	778 92
Total liabilities, as per books of the company,									\$34,631 11
Profit and loss balance,	.	.	.	.	.	.	.	.	202 93
									\$34,834 04

MANUFACTURING ACCOUNT.									
Operating expenses:					DR.		CR.		
For current bought,	.	.	\$2,413 65						
distribution,	.	.	1,200 82						
management,	.	.	1,441 00						
taxes,	.	.	198 82						
incidentals,	.	.	93 36						
					\$5,347 65				
Income from sale of electricity,	.	.	.				\$8,121 20		
Balance to profit and loss,	.	.	.		2,773 55				
					\$8,121 20		\$8,121 20		

PROFIT AND LOSS ACCOUNT.									
					DR.		CR.		
Balance June 30, 1911,	.	.	.	.			\$1,024 23		
Balance of manufacturing account,	.	.	.	.			2,773 55		
Interest received,	.	.	.	.			5 58		
Rents,	.	.	.	.			59 50		
Interest paid,	.	.	.	.	\$1,052 22				
Dividends declared,	.	.	.	.	1,575 00				
Other items,	.	.	.	.	1,032 71				
Balance June 30, 1912,	.	.	.	.	202 93				
					\$3,862 86		\$3,862 86		

MONTAGUE ELECTRIC LIGHT AND POWER COMPANY.

ASSETS.

Real estate,	\$200 00
Water wheel,	64 98
Steam plant,	1,137 13
Electric plant,	840 09
Electric lines,	1,445 91
Meters,	693 35
Due for electricity,	338 07
Incandescent lamps on hand,	51 27
Fixtures, tools, etc., on hand,	58 10
Cash on hand,	317 09
Reserved fund,	269 20

Total assets, as per books of the company, \$5,415 19

LIABILITIES.

Capital stock,	\$2,000 00
Notes payable,	1,000 00
Unpaid bills,	452 49
Interest accrued but not due,	5 50
Reserved fund,	250 00

Total liabilities, as per books of the company, \$3,707 99
Profit and loss balance, 1,707 20

\$5,415 19

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$585 58	
For distribution,	203 45	
management,	15 26	
taxes,	52 01	
incidentals,	11 25	
	<u>\$867 53</u>	
Income from sale of electricity,		\$1,273 40
other sources,		106 70
Balance to profit and loss,	512 57	
	<u>\$1,380 10</u>	<u>\$1,380 10</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$1,741 17
Balance of manufacturing account,		512 57
Interest received,		14 68
Jobbing,		26 91
Interest paid,	\$66 50	
Depreciation,	464 62	
Reserve fund,	50 00	
Other items,	7 01	
Balance June 30, 1912,	1,707 20	
	<u>\$2,295 33</u>	<u>\$2,295 33</u>

NANTUCKET.

(See CITIZENS' GAS, ELECTRIC AND POWER COMPANY.)

NASHUA RIVER PAPER CORPORATION.

(East Pepperell.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$1,095 00	
For current bought,	2,025 72	
distribution,	897 00	
management,	390 00	
taxes,	187 00	
incidentals,	14 70	
	<u>\$4,609 42</u>	
Income from sale of electricity,		\$5,424 68
Balance to profit and loss,	815 26	
	<u>\$5,424 68</u>	<u>\$5,424 68</u>

NATICK GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$35,744 52
Machinery and manufacturing appliances,	7,714 97
Street mains and services,	41,259 74
Meters,	10,037 90
Due for gas,	3,018 78
Gas coal on hand,	1,039 83
Coke on hand,	648 72
Tar on hand,	60 00
Enrichers on hand,	265 90
Purifying materials on hand,	125 05
Other materials and stoves on hand,	4,627 59
Fixtures, tools, etc., on hand,	464 96
Horses, wagons, etc.,	25 00
Sundry accounts due the company,	3,884 94
Office furniture,	448 00
Cash on hand,	803 92
Accident fund,	226 12
Total assets, as per books of the company,	<u>\$110,395 94</u>

LIABILITIES.

Capital stock,	\$59,600 00
Notes payable,	30,500 00
Unpaid bills,	4,529 02
Reserved fund,	226 12
Total liabilities, as per books of the company,	<u>\$94,855 14</u>
Profit and loss balance,	15,540 80
	<u>\$110,395 94</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$15,731 09	
For distribution,	3,607 56	
management,	2,958 47	
taxes,	1,456 35	
incidentals,	363 53	
	<u>\$24,117 00</u>	
Income from sale of gas,		\$23,073 29
residuals,		3,056 67
other sources,		176 22
Balance to profit and loss,	2,189 18	
	<u>\$26,306 18</u>	<u>\$26,306 18</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$17,907 64
Balance of manufacturing account,		2,189 18
Rents,		335 00
Jobbing,		304 18
Interest paid,	\$1,225 33	
Dividends declared,	3,235 00	
Depreciation,	47 34	
Reserved fund,	226 12	
Other items,	461 41	
Balance June 30, 1912,	15,540 80	
	<u>\$20,736 00</u>	<u>\$20,736 00</u>

NEW BEDFORD GAS AND EDISON LIGHT COMPANY.

ASSETS.

Real estate (gas),	\$276,469 44
Machinery and manufacturing appliances (gas),	208,625 18
Street mains (gas),	370,658 05
Services (gas),	72,613 05
Meters (gas),	104,309 78
Due for gas,	37,303 84
Gas coal on hand,	11,889 22
Coke on hand,	490 00
Tar on hand,	1,046 25
Enrichers on hand,	6,499 91
Purifying materials on hand,	1,770 50
Other gas materials on hand,	22,534 96
Stoves on hand,	4,314 91
Gas fixtures, tools, etc., on hand,	5,642 96
Real estate (electric),	105,921 03
Steam plant (electric),	149,472 28
Electric plant,	68,176 52
Electric lines,	254,346 80
Transformers,	13,910 25
Meters (electric),	36,531 88
Arc lamps,	8,852 35
Due for electricity,	19,227 95

Fuel on hand (electric),	\$5,139 05
Carbons on hand,	214 58
Oil and waste on hand,	253 70
Incandescent lamps on hand,	2,490 06
Globes on hand,	177 77
Other electric materials on hand,	18,469 94
Motors on hand,	4,169 47
Horses, wagons, etc.,	11,544 52
Sundry accounts due the company,	18,188 44
Office furniture,	4,126 06
Cash on hand,	132,831 16
Notes receivable,	931 96
Office building,	42,490 94
Investments,	33,872 32
Total assets, as per books of the company,	\$2,055,507 08

LIABILITIES.	
Capital stock,	\$1,060,000 00
Notes payable,	90,000 00
Unpaid bills,	21,993 59
Deposits,	26,094 31
Unpaid dividends,	31,800 00
Interest due but not paid,	2,378 12
Interest accrued but not due,	478 75
Reserved fund,	18,619 35
Depreciation fund,	57,601 25
Premium on capital stock,	215,270 95
Amounts due from the company, not included above,	29,524 66
Total liabilities, as per books of the company,	\$1,553,760 98
Profit and loss balance,	501,746 10
	\$2,055,507 08

MANUFACTURING ACCOUNT.				Dr.	Cr.
Operating expenses (gas):					
At works,	.	.	.	\$152,119 82	
For distribution,	.	.	.	66,785 74	
management,	.	.	.	25,620 83	
taxes,	.	.	.	42,056 03	
incidentals,	.	.	.	2,857 41	
				<hr/>	\$289,439 83
Operating expenses (electric):					
At station,	.	.	.	\$64,256 15	
For distribution,	.	.	.	26,181 09	
management,	.	.	.	12,810 38	
taxes,	.	.	.	21,027 02	
incidentals,	.	.	.	3,616 97	
				<hr/>	127,891 61
Income from sale of gas,	.	.	.		\$405,005 06
residuals,	.	.	.		24,002 46
other sources (gas),	.	.	.		14,466 83
sale of electricity,	.	.	.		231,446 51
other sources (electric),	.	.	.		617 77
Balance to profit and loss:					
Gas,	.	.	.	154,034 52	
Electric,	.	.	.	104,172 67	
				<hr/>	<hr/>
				\$675,538 63	\$675,538 63

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$362,175 13
Balance of gas manufacturing account,		154 034 52
Balance of electric manufacturing account,		104,172 67
Interest received,		340 10
Rents,		2,637 00
Jobbing,		9,778 30
Other items of income,		204 39
Interest paid,	\$2,706 74	
Dividends declared,	127,188 00	
Depreciation,	943 89	
Other items,	757 38	
Balance June 30, 1912,	541,746 10	
	<hr/>	<hr/>
	\$633,342 11	\$633,342 11

NEWBURYPORT GAS AND ELECTRIC COMPANY.

ASSETS.

Real estate (gas),	\$3,132 43
Machinery and manufacturing appliances (gas),	113,280 93
Street mains (gas),	42,916 29
Meters (gas),	9,835 12
Due for gas,	8,292 96
Gas coal on hand,	3,120 42
Coke on hand,	980 00
Tar on hand,	1,350 00
Enrichers on hand,	190 00
Purifying materials on hand,	90 00
Other gas materials on hand,	740 30
Stoves on hand,	979 12
Real estate (electric),	36,737 48
Steam plant (electric),	84,459 63
Electric plant,	47,544 77
Electric lines,	41,137 88
Transformers,	13,667 32
Meters (electric),	10,757 42
Arc lamps,	11,216 83
Due for electricity,	8,530 24
Fuel on hand (electric),	40 50
Carbons on hand,	27 00
Incandescent lamps on hand,	56 70
Other electric materials on hand,	476 57
Horses, wagons, etc.,	800 00
Sundry accounts due the company,	2,095 89
Office furniture,	1,833 08
Cash on hand,	3,530 71
Investments,	1,300 00
	<hr/>
Total assets, as per books of the company,	\$449,119 59

LIABILITIES.

Capital stock,	\$285,000 00
Notes payable,	80,400 00
Unpaid bills,	177 46
Deposits,	970 00
Total liabilities, as per books of the company,	\$366,547 46
Profit and loss balance,	82,572 13
	<u>\$449,119 59</u>

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
At works,	\$28,177 45	
For distribution,	4,773 26	
management,	4,119 84	
taxes,	5,362 67	
incidentals,	435 17	
	<u>\$42,868 39</u>	
Operating expenses (electric):		
At station,	\$18,708 53	
For distribution,	4,260 52	
management,	4,091 93	
taxes,	5,362 68	
incidentals,	1,192 16	
	<u>33,615 82</u>	
Income from sale of gas,		\$46,949 83
residuals,		8,854 41
other sources (gas),		307 24
sale of electricity,		61,558 23
other sources (electric),		1,452 34
Balance to profit and loss:		
Gas,	13,243 09	
Electric,	29,394 75	
	<u>\$119,122 05</u>	<u>\$119,122 05</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$64,905 67
Balance of gas manufacturing account,		13,243 09
Balance of electric manufacturing account,		29,394 75
Rents,		154 25
Jobbing,		447 26
Other items of income,		176 84
Interest paid,	\$2,949 73	
Dividends declared,	22,800 00	
Balance June 30, 1912,	82,572 13	
	<u>\$108,321 86</u>	<u>\$108,321 86</u>

NEWTON AND WATERTOWN GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$98,726 95
Machinery and manufacturing appliances,	133,953 58
Street mains,	418,568 44

Services,	\$10,534 57
Meters,	62,077 77
Due for gas,	12,002 09
Coal on hand,	122 17
Coke on hand,	1 84
Enrichers on hand,	2,262 88
Other materials on hand,	52,268 37
Stoves and appliances,	3,760 56
Purchase of gas department, Waltham Gas Light Company,	490,228 48
Horses, wagons, etc.,	8,504 75
Sundry accounts due the company,	11,682 69
Office furniture,	2,591 64
Cash on hand,	12,375 38
Notes receivable,	98 35
Insurance,	539 47

Total assets, as per books of the company, \$1,320,299 98

LIABILITIES.

Capital stock,	\$560,000 00
Notes payable,	202,500 00
Unpaid bills,	26,271 65
Deposits,	3,737 75
Unpaid dividends,	72 00
Premium on capital stock,	130,000 00
Amounts due from the company, not included above,	3,575 35

Total liabilities, as per books of the company, \$926,156 75
Profit and loss balance, 394,143 23

\$1,320,299 98

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$18,918 26	
For gas bought,	176,475 17	
distribution,	54,406 32	
management,	41,036 35	
taxes,	17,880 00	
incidentals,	2,190 93	
	<hr/>	
	\$310,907 03	
Income from sale of gas,		\$371,322 90
residuals,		195 49
other sources,		10,866 50
Balance to profit and loss,	71,477 86	
	<hr/>	<hr/>
	\$382,384 89	\$382,384 89

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$388,383 28
Balance of manufacturing account,		71,477 86
Interest received,		861 63
Rents,		2,857 63
Jobbing,		4,574 76

	Dr.	Cr.
Interest paid,	\$7,419 57	
Dividends declared,	61,600 00	
Depreciation,	4,413 07	
Other items,	579 29	
Balance June 30, 1912,	394,143 23	
	<hr/>	<hr/>
	\$468,155 16	\$468,155 16

NILES (W. J.), TRUSTEE OF ESTATE OF.

(Boston.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$4,183 37	
For distribution,	341 32	
management,	383 82	
taxes,	5 94	
incidentals,	112 87	
	<hr/>	
	\$5,027 32	
Income from sale of electricity,		\$6,751 22
other sources,		110 00
Balance to profit and loss,	1,833 90	
	<hr/>	<hr/>
	\$6,861 22	\$6,861 22

NORTH ADAMS GAS LIGHT COMPANY.

ASSETS.

Real estate (gas),	\$40,376 96
Machinery and manufacturing appliances (gas),	86,359 23
Street mains (gas),	62,412 83
Services (gas),	31,932 13
Meters (gas),	22,374 83
Due for gas,	10,279 18
Gas coal on hand,	6,187 10
Coke on hand,	131 96
Enrichers on hand,	925 51
Purifying materials on hand,	163 59
Other gas materials on hand,	42 00
Gas fixtures, tools, etc., on hand,	9,456 89
Real estate (electric),	80,845 49
Steam plant (electric),	117,136 19
Electric plant,	50,152 65
Electric lines,	61,199 03
Transformers,	14,303 68
Meters (electric),	18,222 69
Arc lamps,	6,614 07
Due for electricity,	15,441 50
Fuel on hand (electric),	7,104 24
Carbons on hand,	126 34
Incandescent lamps on hand,	864 05
Other electric materials on hand,	199 99
Motors on hand,	10,299 92
Horses, wagons, etc.,	3,158 12

Sundry accounts due the company,	\$9,856 48
Office furniture,	2,995 90
Cash on hand,	3,509 14
Notes receivable,	141 02
Investments,	5,000 00

Total assets, as per books of the company, \$677,812 71

LIABILITIES.

Capital stock,	\$200,000 00
Notes payable,	358,500 00
Unpaid bills,	5,917 42
Deposits,	2,270 35
Unpaid dividends,	6,000 00
Premium on capital stock,	30,000 00
Depreciation fund,	23,504 70
Amounts due from the company, not included above,	4,027 76

Total liabilities, as per books of the company, \$630,220 23

Profit and loss balance, 47,592 48

\$677,812 71

MANUFACTURING ACCOUNT.

Operating expenses (gas):	DR.	CR.
At works,	\$38,175 73	
For distribution,	9,470 64	
management,	11,499 80	
taxes,	3,850 05	
incidentals,	2,674 11	
	<hr/>	
	\$65,670 33	
Operating expenses (electric):		
At station,	\$50,858 03	
For distribution,	15,091 26	
management,	15,451 83	
taxes,	3,934 75	
incidentals,	3,643 58	
	<hr/>	
	88,979 45	
Income from sale of gas,		\$75,590 97
residuals,		644 49
sale of electricity,		141,165 88
Balance to profit and loss:		
Gas,	10,565 13	
Electric,	52,186 43	
	<hr/>	
	\$217,401 34	\$217,401 34

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$48,388 71
Balance of gas manufacturing account,		10,565 13
Balance of electric manufacturing account,		52,186 43
Interest received,		116 47
Rents,		369 30
Other items of income,		100 00

	Dr.	Cr.
Interest paid,	\$21,151 99	
Dividends declared,	36,000 00	
Depreciation,	2,000 00	
Other items,	4,981 57	
Balance June 30, 1912,	47,592 48	
	<hr/>	<hr/>
	\$111,726 04	\$111,726 04

NORTHAMPTON ELECTRIC LIGHTING COMPANY.

ASSETS.	
Real estate,	\$20,470 66
Steam plant,	59,316 60
Electric plant,	37,159 64
Electric lines,	89,251 30
Transformers,	11,401 13
Meters,	15,945 74
Arc lamps,	4,597 59
Due for electricity,	14,490 32
Fuel on hand,	4,226 35
Carbons on hand,	66 25
Incandescent lamps on hand,	831 33
Other materials on hand,	69 65
Motors on hand,	36 65
Fixtures, tools, etc., on hand,	2,596 60
Horses, wagons, etc.,	916 75
Sundry accounts due the company,	2,365 88
Office furniture,	1,960 60
Cash on hand,	33,918 69
Notes receivable,	23,500 00
	<hr/>
Total assets, as per books of the company,	\$323,121 73

LIABILITIES.	
Capital stock,	\$117,400 00
Bonds issued,	78,000 00
Unpaid bills,	4,267 42
Deposits,	337 50
Unpaid dividends,	3,522 00
Depreciation fund,	63,614 60
Amounts due from the company, not included above,	6,188 07
	<hr/>

Total liabilities, as per books of the company,	\$273,329 59
Profit and loss balance,	49,792 14
	<hr/>
	\$323,121 73

MANUFACTURING ACCOUNT.		Dr.	Cr.
Operating expenses:			
At station,	\$28,591 50		
For distribution,	7,545 98		
management,	13,914 42		
taxes,	4,093 89		
incidentals,	2,152 37		
	<hr/>		
		\$56,298 16	

	Dr.	Cr.
Income from sale of electricity,		\$108,584 35
other sources,		1,716 86
Balance to profit and loss,	\$54,003 05	
	<u>\$110,301 21</u>	<u>\$110,301 21</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$40,332 71
Balance of manufacturing account,		54,003 05
Interest received,		1,919 24
Jobbing,		1,558 51
Interest paid,	\$3,933 37	
Dividends declared,	14,088 00	
Depreciation fund,	30,000 00	
Balance June 30, 1912,	49,792 14	
	<u>\$97,813 51</u>	<u>\$97,813 51</u>

NORTHAMPTON GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$35,142 26
Machinery and manufacturing appliances,	56,162 62
Street mains,	72,919 04
Services,	5,550 97
Meters,	15,907 26
Due for gas,	6,421 78
Gas coal on hand,	5,406 54
Coke on hand,	502 20
Tar on hand,	111 00
Enrichers on hand,	238 42
Purifying materials on hand,	196 63
Other materials on hand,	147 83
Stoves, fixtures, and tools on hand,	7,603 84
Horses, wagons, etc.,	1,252 07
Sundry accounts due the company,	2,720 86
Office furniture,	777 28
Cash on hand,	2,700 80
Investments,	18,844 56
Total assets, as per books of the company,	<u>\$232,605 96</u>

LIABILITIES.

Capital stock,	\$120,000 00
Notes payable,	51,000 00
Unpaid bills,	820 43
Deposits,	698 00
Unpaid dividends,	3,600 00
Premium on capital stock,	16,400 00
Depreciation fund,	24,823 68
Amounts due from the company, not included above,	502 67
Total liabilities, as per books of the company,	<u>\$217,844 78</u>
Profit and loss balance,	14,761 18
	<u>\$232,605 96</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$32,627 28	
For distribution,	8,147 39	
management,	12,147 91	
taxes,	4,868 37	
incidentals,	2,454 77	
	<hr/>	
	\$60,245 72	
Income from sale of gas,		\$70,620 50
residuals,		2,071 12
other sources,		301 75
Balance to profit and loss,	12,747 65	
	<hr/>	<hr/>
	\$72,993 37	\$72,993 37

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$27,741 60
Balance of manufacturing account,		12,747 65
Interest received,		99 35
Rents,		1,373 00
Jobbing,		1,299 00
Other items of income,		881 20
Interest paid,	\$2,535 60	
Dividends declared,	26,400 00	
Other items,	445 02	
Balance June 30, 1912,	14,761 18	
	<hr/>	<hr/>
	\$44,141 80	\$44,141 80

NORTH ATTLEBOROUGH GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$28,756 75
Machinery and manufacturing appliances,	5,786 67
Street mains,	32,403 65
Services,	1,906 28
Meters,	6,686 29
Due for gas,	4,012 80
Gas coal on hand,	7,085 76
Coke on hand,	150 50
Tar on hand,	686 00
Enrichers on hand,	266 96
Purifying materials on hand,	352 20
Other materials on hand,	1,343 75
Stoves on hand,	175 75
Fixtures, tools, etc., on hand,	9 47
Sundry accounts due the company,	1,079 98
Office furniture,	501 04
Cash on hand,	43,191 05

Total assets, as per books of the company, \$134,394 90

LIABILITIES.

Capital stock,	\$68,100 00
Unpaid dividends,	3,405 00
Total liabilities, as per books of the company,	\$71,505 00
Profit and loss balance,	62,889 90
	<u>\$134,394 90</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$29,839 94	
For distribution,	2,660 18	
management,	4,329 61	
taxes,	2,943 85	
incidentals,	465 24	
	<u>\$40,238 82</u>	
Income from sale of gas,		\$44,482 84
residuals,		7,804 82
other sources,		390 50
Balance to profit and loss,	\$12,439 34	
	<u>\$52,678 16</u>	<u>\$52,678 16</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$57,847 57
Balance of manufacturing account,		12,439 34
Interest received,		1,396 61
Rents,		126 32
Jobbing,		436 32
Other items of income,		8 00
Dividends declared,	\$6,810 00	
Depreciation,	2,554 26	
Balance June 30, 1912,	62,889 90	
	<u>\$72,254 16</u>	<u>\$72,254 16</u>

NORTH DANA BOX & ELECTRIC LIGHT COMPANY.

(H. W. Mason, Owner.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$770 00	
For distribution,	40 00	
management,	10 00	
	<u>\$820 00</u>	
Income from sale of electricity,		\$1,614 00
Balance to profit and loss,	794 00	
	<u>\$1,614 00</u>	<u>\$1,614 00</u>

NORTHFIELD ACETYLENE GAS LIGHT COMPANY.

(Charles E. Williams, Owner.)

ASSETS.	
Real estate,	\$629 49
Machinery and manufacturing appliances,	1,042 59
Street mains,	1,395 10
Meters,	208 81
<hr/>	
Total assets, as per books of the company,	\$3,275 99
LIABILITIES.	
Capital invested,	\$3,275 99
<hr/>	
Total liabilities, as per books of the company,	\$3,275 99

MANUFACTURING ACCOUNT TO JANUARY 15, 1912.

Operating expenses:	DR.	CR.
At works,	\$199 95	
For management,	166 16	
taxes,	37 75	
	<hr/>	
	\$403 86	
Income from sale of gas,		\$403 86
	<hr/>	<hr/>
	\$403 86	\$403 86

NORTON ELECTRIC LIGHT AND POWER COMPANY.

ASSETS.	
Electric plant,	\$2,549 83
Electric lines,	7,210 89
Transformers,	466 60
Meters,	467 64
Due for electricity,	119 28
Other materials on hand,	50 00
Fixtures, tools, etc., on hand,	75 00
Cash on hand,	31 29
<hr/>	
Total assets, as per books of the company,	\$10,970 53
LIABILITIES.	
Capital stock,	\$5,000 00
Notes payable,	5,675 00
Unpaid bills,	232 17
<hr/>	
Total liabilities, as per books of the company,	\$10,907 17
Profit and loss balance,	63 36
<hr/>	
	\$10,970 53

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$425 00	
For distribution,	280 51	
management,	529 59	
taxes,	22 88	
incidentals,	10 00	
	<hr/>	
	\$1,267 98	
Income from sale of electricity,		\$1,463 84
Balance to profit and loss,	195 86	
	<hr/>	<hr/>
	\$1,463 84	\$1,463 84

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$58 00
Balance of manufacturing account,		195 86
Interest paid,	\$190 50	
Balance June 30, 1912,	63 36	
	<hr/>	<hr/>
	\$253 86	\$253 86

NORWOOD GAS COMPANY.

ASSETS.

Real estate,	\$16,946 22
Machinery and manufacturing appliances,	15,721 05
Street mains,	37,473 21
Services,	4,282 88
Meters,	7,941 67
Due for gas,	2,723 29
Gas coal on hand,	1,470 00
Coke on hand,	600 00
Tar on hand,	227 65
Enrichers on hand,	65 00
Purifying materials on hand,	149 29
Stoves on hand,	764 19
Fixtures, tools, etc., on hand,	3,210 04
Horses, wagons, etc.,	730 48
Sundry accounts due the company,	3,033 74
Office furniture,	603 81
Cash on hand,	910 88
Investments,	315 00
	<hr/>
Total assets, as per books of the company,	\$97,168 40

LIABILITIES.

Capital stock,	\$72,000 00
Notes payable,	4,000 00
Unpaid bills,	3,651 29
Unpaid dividends,	1,020 00
	<hr/>
Total liabilities, as per books of the company,	\$80,671 29
Profit and loss balance,	16,497 11
	<hr/>
	\$97,168 40

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses:		
At works,	\$14,199 02	
For distribution,	4,233 97	
management,	4,523 94	
taxes,	777 83	
incidentals,	408 50	
	<hr/>	
	\$24,143 26	
Income from sale of gas,		\$25,384 68
residuals,		3,256 93
other sources,		226 15
Balance to profit and loss,	4,724 50	.
	<hr/>	<hr/>
	\$28,867 76	\$28,867 76

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$19,585 47
Balance of manufacturing account,		4,724 50
Interest received,		20 88
Interest paid,	\$155 89	
Dividends declared,	4,320 00	
Depreciation,	3,053 03	
Other items,	304 82	
Balance June 30, 1912,	16,497 11	
	<hr/>	<hr/>
	\$24,330 85	\$24,330 85

OAK BLUFFS.

(See VINEYARD LIGHTING COMPANY.)

OLD COLONY GAS COMPANY.

ASSETS.

Real estate,	\$174,248 41
Machinery and manufacturing appliances,	50,257 99
Street mains,	297,400 98
Services,	62,784 05
Meters,	12,009 10
Due for gas,	3,498 62
Coke on hand,	1,461 28
Enrichers on hand,	1,949 55
Purifying materials on hand,	1,332 54
Other materials on hand,	953 22
Fixtures, tools, etc., on hand,	1,028 88
Gas laboratory,	416 05
Horses, wagons, etc.,	1,929 14
Sundry accounts due the company,	12,871 37
Office furniture,	541 27
Cash on hand,	1,201 68
	<hr/>
Total assets, as per books of the company,	\$623,884 13

LIABILITIES.

Capital stock,	\$100,000 00
Bonds issued,	100,000 00
Notes payable,	414,000 00
Unpaid bills,	5,125 57
Amounts due from the company, not included above,	90 31
<hr/>	
Total liabilities, as per books of the company,	\$619,215 88
Profit and loss balance,	4,668 25
<hr/>	
	\$623,884 13

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$4,985 81	
For distribution,	328 35	
management,	1,237 57	
incidentals,	208 33	
	<hr/>	
	\$6,760 06	
Income from sale of gas,		\$8,655 70
residuals,		3 75
other sources,		364 28
Balance to profit and loss,	2,263 67	
	<hr/>	<hr/>
	\$9,023 73	\$9,023 73

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance of manufacturing account,		\$2,263 67
Jobbing,		2,450 63
Depreciation,	\$46 05	
Balance June 30, 1912,	4,668 25	
	<hr/>	<hr/>
	\$4,714 30	\$4,714 30

OTIS COMPANY, THE,

(Ware.)

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$23,113 78	
For distribution,	819 28	
management,	570 96	
taxes,	589 79	
incidentals,	356 98	
	<hr/>	
	\$25,450 79	
Income from sale of gas,		\$13,979 29
residuals,		4,254 15
Balance to profit and loss,		7,217 35
	<hr/>	<hr/>
	\$25,450 79	\$25,450 79

PEOPLE'S GAS AND ELECTRIC COMPANY OF STONEHAM.

ASSETS.									
Real estate,	.	.	.	.	.	.	.	.	\$4,673 11
Machinery and manufacturing appliances,	.	.	.	.	.	.	.	.	8,220 00
Street mains,	.	.	.	.	.	.	.	.	52,519 73
Services,	.	.	.	.	.	.	.	.	6,976 97
Meters,	.	.	.	.	.	.	.	.	9,635 81
Due for gas,	.	.	.	.	.	.	.	.	993 43
Other materials on hand,	.	.	.	.	.	.	.	.	2,308 73
Stoves on hand,	.	.	.	.	.	.	.	.	190 66
Fixtures, tools, etc., on hand,	.	.	.	.	.	.	.	.	767 30
Work in process,	.	.	.	.	.	.	.	.	1,774 40
Sundry accounts due the company,	.	.	.	.	.	.	.	.	8,175 32
Office furniture,	.	.	.	.	.	.	.	.	100 89
Cash on hand,	.	.	.	.	.	.	.	.	25 00
Total assets, as per books of the company,									\$96,361 35

LIABILITIES.									
Capital stock,	.	.	.	.	.	.	.	.	\$40,000 00
Notes payable,	.	.	.	.	.	.	.	.	25,000 06
Unpaid bills,	.	.	.	.	.	.	.	.	5,497 67
Deposits,	.	.	.	.	.	.	.	.	257 10
Interest accrued but not due,	.	.	.	.	.	.	.	.	20 15
Depreciation fund,	.	.	.	.	.	.	.	.	10,485 67
Total liabilities, as per books of the company,									\$81,260 59
Profit and loss balance,	.	.	.	.	.	.	.	.	15,100 76
									\$96,361 35

MANUFACTURING ACCOUNT.									
Operating expenses:					Dr.		Cr.		
At works,	.	.	.	\$245 10					
For gas bought,	.	.	.	8,580 43					
distribution,	.	.	.	3,972 40					
management,	.	.	.	931 51					
taxes,	.	.	.	375 57					
incidentals,	.	.	.	383 69					
					\$14,488 70				
Income from sale of gas,	.	.	.	.			\$13,970 80		
Balance to profit and loss,	.	.	.	.			517 90		
					\$14,488 70		\$14,488 70		

PROFIT AND LOSS ACCOUNT.									
					Dr.		Cr.		
Balance June 30, 1911,	.	.	.	.	\$2,728 21				
Balance of manufacturing account,	.	.	.	.	517 90				
Interest received,	.	.	.	.			\$64 38		
Jobbing,	.	.	.	.			389 83		
Revaluation of plant,	.	.	.	.			20,043 25		
Other items of income,	.	.	.	.			17 48		
Interest paid,	.	.	.	.	2,168 07				
Balance June 30, 1912,	.	.	.	.	15,100 76				
					\$20,514 94		\$20,514 94		

PITTSFIELD COAL GAS COMPANY.

ASSETS.

Real estate,	\$50,599 35
Machinery and manufacturing appliances,	137,194 64
Street mains,	117,874 37
Services,	54,524 20
Meters,	48,444 63
Gas arc lamps,	3,309 25
Due for gas,	14,232 90
Gas coal on hand,	6,834 53
Coke on hand,	231 00
Tar on hand,	1,001 96
Enrichers on hand,	1,100 17
Purifying materials on hand,	93 50
Other materials on hand,	7,319 38
Stoves on hand and water heaters,	9,993 64
Fixtures, tools, etc., on hand,	15,316 10
Horses, wagons, etc.,	2,600 00
Sundry accounts due the company,	10,788 63
Cash on hand,	3,561 78
Investments,	7,000 00
<hr/>	
Total assets, as per books of the company,	\$492,020 03

LIABILITIES.

Capital stock,	\$396,000 00
Notes payable,	45,000 00
Deposits,	1,523 46
<hr/>	
Total liabilities, as per books of the company,	\$442,523 46
Profit and loss balance,	49,496 57
<hr/>	
	\$492,020 03

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At works,	\$60,568 23	
For distribution,	15,729 55	
management,	15,386 13	
taxes,	10,694 58	
incidentals,	8,750 61	
	<hr/>	
	\$111,129 10	
Income from sale of gas,		\$158,124 61
residuals,		1,857 65
Balance to profit and loss,	48,853 16	
	<hr/>	<hr/>
	\$159,982 26	\$159,982 26

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$45,000 00
Balance of manufacturing account,		48,853 16
Rents,		599 00
Jobbing,		369 44

	Dr.	Cr.
Interest paid,	\$1,291 18	
Dividends declared,	27,720 00	
Depreciation,	15,866 44	
Other items,	447 41	
Balance June 30, 1912,	49,496 57	
	<hr/>	<hr/>
	\$94,821 60	\$94,821 60

PITTSFIELD ELECTRIC COMPANY.

ASSETS.		
Real estate,		\$156,008 55
Steam plant,		169,283 05
Electric plant,		58,446 17
Electric lines,		142,989 86
Transformers,		31,415 22
Meters,		41,238 24
Arc lamps,		6,486 55
Nernst and Tungsten lamps,		6,863 88
Due for electricity and steam heat,		17,855 08
Fuel on hand,		5,327 01
Incandescent lamps on hand,		3,955 29
Other materials on hand,		11,891 12
Motors on hand,		23,330 41
Fixtures, tools, etc., on hand,		8,146 03
Sundry accounts due the company,		2,881 49
Office furniture,		671 62
Cash on hand,		13,037 21
		<hr/>
Total assets, as per books of the company,		\$699,826 78
LIABILITIES.		
Capital stock,		\$375,000 00
Bonds issued,		150,000 00
Notes payable,		46,500 00
Unpaid bills,		6,225 79
Deposits,		3,482 68
Premium on capital stock,		52,500 00
Interest accrued but not due,		965 87
Depreciation fund,		35,152 44
		<hr/>
Total liabilities, as per books of the company,		\$669,826 78
Profit and loss balance,		30,000 00
		<hr/>
		\$699,826 78

MANUFACTURING ACCOUNT.		Dr.	Cr.
Operating expenses:			
At station,	\$68,114 66		
For current bought,	3,690 40		
distribution,	39,281 34		
management,	12,363 88		
taxes,	6,932 51		
incidentals,	7,459 73		
	<hr/>	\$137,842 52	

	Dr.	Cr.
Income from sale of electricity,		\$182,812 09
other sources,		22,681 89
Balance to profit and loss,	\$67,651 46	
	<hr/>	<hr/>
	\$205,493 98	\$205,493 98

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$30,000 00
Balance of manufacturing account,		67,651 46
Jobbing,		1,642 06
Interest paid,	\$9,279 93	
Dividends declared,	37,500 00	
Depreciation fund,	21,252 99	
Other items,	1,260 60	
Balance June 30, 1912,	30,000 00	
	<hr/>	<hr/>
	\$99,293 52	\$99,293 52

PLYMOUTH ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$34,736 38
Steam plant,	48,276 15
Electric plant,	48,026 51
Electric lines,	67,407 65
Transformers,	8,088 89
Meters,	12,010 57
Arc lamps,	238 98
Due for electricity,	7,058 33
Fuel on hand,	6,484 30
Other materials on hand,	5,070 53
Fixtures, tools, etc., on hand,	830 90
Automobile,	1,200 00
Sundry accounts due the company,	793 27
Office furniture,	422 23
Cash on hand,	2,088 51
Insurance and interest prepaid,	427 83
	<hr/>
Total assets, as per books of the company,	\$243,161 03

LIABILITIES.

Capital stock,	\$120,000 00
Bonds issued,	60,000 00
Notes payable,	32,562 80
Unpaid bills,	11,292 52
Interest accrued but not due,	40 00
Amounts due from the company, not included above,	530 72
	<hr/>
Total liabilities, as per books of the company,	\$224,426 04
Profit and loss balance,	18,734 99
	<hr/>
	\$243,161 03

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$19,558 83	
For current bought,	30 50	
distribution,	6,674 94	
management,	7,398 77	
taxes,	2,127 86	
incidentals,	1,075 12	
	<hr/>	
	\$36,866 02	
Income from sale of electricity,		\$59,566 16
Balance to profit and loss,	22,700 14	
	<hr/>	<hr/>
	\$59,566 16	\$59,566 16

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$26,114 35
Balance of manufacturing account,		22,700 14
Jobbing,		140 71
Interest paid,	\$5,128 07	
Dividends declared,	7,200 00	
Depreciation,	14,255 55	
Other items,	3,636 59	
Balance June 30, 1912,	18,734 99	
	<hr/>	<hr/>
	\$48,955 20	\$48,955 20

PLYMOUTH GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$9,685 90
Machinery and manufacturing appliances,	14,383 24
Street mains and services,	31,265 76
Meters,	3,854 67
Due for gas,	3,420 12
Gas coal on hand,	1,410 52
Coke on hand,	160 40
Tar on hand,	74 00
Stoves on hand,	177 28
Fixtures, tools, etc., on hand,	291 19
Sundry accounts due the company,	803 44
Cash on hand,	2,211 51
Investments,	1,800 00
	<hr/>
Total assets, as per books of the company,	\$69,538 03

LIABILITIES.

Capital stock,	\$40,000 00
Notes payable,	12,000 00
Unpaid bills,	3,361 02
Unpaid dividends,	230 00
Amounts due from the company, not included above,	747 82
	<hr/>
Total liabilities, as per books of the company,	\$56,338 84
Profit and loss balance,	13,199 19
	<hr/>
	\$69,538 03.

Fixtures, tools, etc., on hand,	.	.	.	.	.	.	.	.	\$2,532 35
Horses, wagons, etc.,	.	.	.	.	.	.	.	.	11,351 78
Sundry accounts due the company,	.	.	.	.	.	.	.	.	1,602 69
Office furniture,	.	.	.	.	.	.	.	.	1,373 60
Cash on hand,	.	.	.	.	.	.	.	.	639 37
Insurance, interest and taxes,	.	.	.	.	.	.	.	.	1,537 48
Investments,	.	.	.	.	.	.	.	.	10,609 30
									<hr/>
Total assets, as per books of the company,	.	.	.	.	.	.	.	.	\$464,949 15

LIABILITIES.									
Capital stock,	.	.	.	.	.	.	.	.	\$250,000 00
Bonds issued,	.	.	.	.	.	.	.	.	100,000 00
Notes payable,	.	.	.	.	.	.	.	.	56,500 00
Unpaid bills,	.	.	.	.	.	.	.	.	15,865 25
Deposits,	.	.	.	.	.	.	.	.	1,155 00
Interest accrued but not due,	.	.	.	.	.	.	.	.	75 00
Premium on capital stock,	.	.	.	.	.	.	.	.	6,185 00
Amounts due from the company, not included above,	.	.	.	.	.	.	.	.	2,999 75
									<hr/>
Total liabilities, as per books of the company,	.	.	.	.	.	.	.	.	\$432,780 00
Profit and loss balance,	.	.	.	.	.	.	.	.	32,169 15
									<hr/>
									\$464,949 15

MANUFACTURING ACCOUNT.									
Operating expenses:				DR.			CR.		
At station,	.	.	.	\$28,387 75					
For distribution,	.	.	.	35,624 72					
management,	.	.	.	13,086 69					
taxes,	.	.	.	9,172 79					
incidentals,	.	.	.	3,575 77					
				<hr/>	\$89,847 72				
Income from sale of electricity,	.	.	.					\$137,338 10	
Balance to profit and loss,	.	.	.		47,490 38				
					<hr/>				
					\$137,338 10			\$137,338 10	

PROFIT AND LOSS ACCOUNT.									
				DR.			CR.		
Balance June 30, 1911,	.	.	.				\$26,690 39		
Balance of manufacturing account,	.	.	.				47,490 38		
Rents,	.	.	.				298 32		
Jobbing,	.	.	.				549 58		
Other items of income,	.	.	.				42 00		
Interest paid,	.	.	.	\$8,033 67					
Dividends declared,	.	.	.	20,000 00					
Depreciation,	.	.	.	13,747 27					
Other items,	.	.	.	1,120 58					
Balance June 30, 1912,	.	.	.	32,169 15					
					<hr/>				
					\$75,070 67			\$75,070 67	

RANDOLPH AND HOLBROOK ELECTRIC LIGHT COMPANY.

(Harold L. Daggett, Lessee.)

MANUFACTURING ACCOUNT.

		Dr.	Cr.
Operating expenses:			
At station,	\$11,893 64		
For electricity bought,	4,459 40		
distribution,	2,583 02		
management,	1,354 17		
taxes,	531 97		
incidentals,	454 50		
		\$21,276 70	
Income from sale of electricity,			\$20,367 10
other sources,			727 90
Balance to profit and loss,			181 70
		\$21,276 70	\$21,276 70

REVERE.

(See SUBURBAN GAS AND ELECTRIC COMPANY.)

SADLER, THOMAS G.

(South Attleborough.)

MANUFACTURING ACCOUNT.

		Dr.	Cr.
Operating expenses:			
At works,	\$877 25		
For distribution,	17 50		
taxes,	18 05		
		\$912 80	
Income from sale of gas,			\$1,196 44
Balance to profit and loss,		283 64	
		\$1,196 44	\$1,196 44

SALEM ELECTRIC LIGHTING COMPANY.

ASSETS.

Real estate,	\$188,663 01
Steam plant,	142,332 40
Electric plant,	53,064 06
Electric lines,	198,715 54
Transformers,	36,532 06
Meters,	44,276 62
Arc lamps,	11,959 06
Work in process,	57,850 55
Due for electricity,	13,047 38
Fuel on hand,	8,654 86
Carbons on hand,	202 16
Incandescent lamps on hand,	4,106 41

Other materials on hand,	\$21,310 22
Motors on hand,	1,012 90
Fixtures, tools, etc., on hand,	3,241 29
Horses, wagons, automobiles, etc.,	7,893 00
Sundry accounts due the company,	5,469 50
Office furniture,	2,966 81
Cash on hand,	70,710 80
Notes receivable,	721 54
Investments,	32,278 59
<hr/>	
Total assets, as per books of the company,	\$905,008 76

LIABILITIES.

Capital stock,	\$495,000 00
Notes payable,	26,000 00
Unpaid bills,	10,841 89
Deposits,	1,847 15
Premium on capital stock,	201,000 00
Interest due but not paid,	20 00
Interest accrued but not due,	538 07
Reserved fund,	461 77
Depreciation fund,	9,063 50
Amounts due from the company, not included above,	2,684 22
<hr/>	
Total liabilities, as per books of the company,	\$747,456 60
Profit and loss balance,	157,552 16
<hr/>	
	\$905,008 76

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$53,431 79	
For distribution,	28,240 84	
management,	35,918 14	
taxes,	13,102 36	
incidentals,	8,257 31	
	<hr/>	
	\$138,950 44	
Income from sale of electricity,		\$217,699 26
other sources,		969 99
Balance to profit and loss,	79,718 81	
	<hr/>	<hr/>
	\$218,669 25	\$218,669 25

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$154,065 37
Balance of manufacturing account,		79,718 81
Interest received,		768 21
Rents,		25 00
Other items of income,		2,674 09
Interest paid,	\$10,198 50	
Dividends declared,	53,731 00	
Depreciation fund,	10,547 96	
Other items,	5,221 86	
Balance June 30, 1912,	157,552 16	
	<hr/>	<hr/>
	\$237,251 48	\$237,251 48

SALEM GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$303,812 45
Machinery and manufacturing appliances,	116,890 16
Street mains,	245,479 14
Services,	46,220 69
Meters,	85,500 00
Due for gas,	23,637 70
Gas coal on hand,	19,125 31
Coke on hand,	12,000 00
Tar on hand,	3,700 00
Enrichers on hand,	314 29
Purifying materials on hand,	627 30
Other materials on hand,	56,272 61
Stoves on hand,	6,667 32
Fixtures, tools, etc., on hand,	8,500 00
Horses, wagons, etc.,	3,240 00
Sundry accounts due the company,	3,370 64
Office furniture,	3,703 44
Cash on hand,	3,658 90
Investments,	3,463 00

Total assets, as per books of the company, \$946,182 95

LIABILITIES.

Capital stock,	\$499,600 00
Notes payable,	116,500 00
Deposits,	1,550 00
Premium on capital stock,	60,000 00
Amounts due from the company, not included above,	6,804 58

Total liabilities, as per books of the company, \$684,454 58

Profit and loss balance, 261,728 37

\$946,182 95

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$71,829 92	
For gas bought,	79 38	
distribution,	19,785 94	
management,	16,840 67	
taxes,	17,554 27	
incidentals,	3,556 38	
	\$129,646 56	
Income from sale of gas,		\$173,804 14
residuals,		15,810 30
other sources,		371 25
Balance to profit and loss,	60,339 13	
	\$189,985 69	\$189,985 69

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$248,854 43
Balance of manufacturing account,		60,339 13
Interest received,		169 40
Rents,		548 02
Jobbing,		750 24
Interest paid,	\$2,830 20	
Dividends declared,	44,964 00	
Depreciation,	628 45	
Other items,	510 20	
Balance June 30, 1912,	261,728 37	
	<hr/>	<hr/>
	\$310,661 22	\$310,661 22

SEEKONK ELECTRIC COMPANY.

ASSETS.

Electric lines,	\$6,430 94
Transformers,	311 48
Meters,	279 44
Due for electricity,	30 10
Cash on hand,	154 14
	<hr/>
Total assets, as per books of the company,	\$7,206 10
Profit and loss balance,	237 26
	<hr/>
	\$7,443 36

LIABILITIES.

Capital stock,	\$5,000 00
Unpaid bills,	2,443 36
	<hr/>
Total liabilities, as per books of the company,	\$7,443 36

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
For electricity bought,	\$130 26	
distribution,	57 35	
management,	11 61	
incidentals,	194 05	
	<hr/>	
	\$393 27	
Income from sale of electricity,		\$130 26
Balance to profit and loss,		263 01
	<hr/>	<hr/>
	\$393 27	\$393 27

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance of manufacturing account,	\$263 01	
Interest received,		\$25 75
Balance June 30, 1912,		237 26
	<hr/>	<hr/>
	\$263 01	\$263 01

SHELBURNE FALLS ELECTRIC LIGHT AND POWER COMPANY.

MANUFACTURING ACCOUNT TO AUGUST 25, 1911.

Operating expenses:	Dr.	Cr.
For electricity bought,	\$798 54	
distribution,	338 55	
management,	205 41	
incidentals,	10 11	
	<hr/>	
	\$1,352 61	
Income from sale of electricity,		\$1,520 05
Balance to profit and loss,	167 44	
	<hr/>	<hr/>
	\$1,520 05	\$1,520 05

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$133 19	
Balance of manufacturing account,		\$167 44
Capital stock surrendered in liquidation and cancelled,		45,000 00
Notes payable assumed by purchaser of plant,		2,500 00
Accounts payable assumed by purchaser of plant,		24,930 68
Assets transferred to Greenfield Electric Light and Power Company,	72,464 93	
	<hr/>	<hr/>
	\$72,598 12	\$72,598 12

SHIRLEY ELECTRIC PLANT.

(See G. M. Ballou.)

SOUTH HADLEY FALLS ELECTRIC LIGHT COMPANY.

	ASSETS.
Steam plant,	\$249 71
Electric plant,	2,684 29
Electric lines,	3,569 81
Transformers,	1,306 69
Meters,	939 50
Due for electricity,	1,947 76
Incandescent lamps on hand,	80 00
Other materials on hand,	48 00
Fixtures, tools, etc., on hand,	22 00
Sundry accounts due the company,	309 74
Cash on hand,	2,351 94
	<hr/>
Total assets, as per books of the company,	\$13,509 44
Profit and loss balance,	9,576 65
	<hr/>
	\$23,086 09

LIABILITIES.

Capital stock,	\$7,000 00
Notes payable,	2,500 00
Unpaid bills,	13,586 09
<hr/>	
Total liabilities, as per books of the company,	\$23,086 09

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$10,561 45	
For distribution,	2,039 38	
management,	1,752 40	
taxes,	353 24	
incidentals,	56 29	
	<hr/>	
	\$14,762 76	
Income from sale of electricity,		\$14,875 32
Balance to profit and loss,	112 56	
	<hr/>	<hr/>
	\$14,875 32	\$14,875 32

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$8,072 97	
Balance of manufacturing account,		\$112 56
Jobbing,		115 58
Sale of property in Fairview,		1,250 00
Other items of income,		36 75
Interest paid,	160 00	
Depreciation,	2,786 89	
Other items,	71 68	
Balance June 30, 1912,		9,576 65
	<hr/>	<hr/>
	\$11,091 54	\$11,091 54

SOUTH HADLEY GAS COMPANY.

ASSETS.

Real estate,	\$434 73
Machinery and manufacturing appliances,	628 61
Street mains,	2,282 45
Services,	149 81
Meters,	148 09
Carbide on hand,	123 19
Cash on hand,	540 97
<hr/>	
Total assets, as per books of the company,	\$4,307 85
Profit and loss balance,	692 15
<hr/>	

\$5,000 00

LIABILITIES.

Capital stock,	\$5,000 00
<hr/>	
Total liabilities, as per books of the company,	\$5,000 00

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$1,300 56	
For distribution,	221 79	
management,	71 78	
taxes,	110 85	
	<hr/>	
	\$1,704 98	
Income from sale of gas,		\$1,653 89
Balance to profit and loss,		51 09
	<hr/>	<hr/>
	\$1,704 98	\$1,704 98

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$322 40	
Balance of manufacturing account,	51 09	
Interest received,		\$10 00
Jobbing,		1 20
Other items of income,		200 00
Dividends declared,	125 00	
Depreciation,	404 86	
Balance June 30, 1912,		692 15
	<hr/>	<hr/>
	\$903 35	\$903 35

SPENCER GAS COMPANY.

Assets.

Real estate (gas),	\$17,749 24
Machinery and manufacturing appliances (gas),	61,204 04
Street mains (gas),	40,887 45
Services (gas),	3,704 43
Meters (gas),	6,495 20
Due for gas,	2,228 99
Gas coal on hand,	950 00
Enrichers on hand,	255 42
Purifying materials on hand,	30 28
Gas fixtures, tools, etc., on hand,	2,494 60
Real estate (electric),	5,050 01
Steam plant (electric),	6,200 89
Electric plant,	4,301 60
Electric lines,	16,678 17
Transformers,	1,706 09
Meters (electric),	787 71
Arc lamps,	3,453 37
Due for electricity,	569 10
Fuel on hand (electric),	241 26
Carbons on hand,	31 91
Incandescent lamps on hand,	220 72
Other electric materials on hand,	163 79
Horses, wagons, etc.,	175 00
Sundry accounts due the company,	10,062 25
Office furniture,	747 26
Cash on hand,	596 39
Office building,	3,797 58
	<hr/>
Total assets, as per books of the company,	\$190,782 75

LIABILITIES.

Capital stock,	\$97,500 00
Bonds issued,	85,000 00
Unpaid bills,	4,275 57
Deposits,	274 50
Amounts due from the company, not included above,	229 09

Total liabilities, as per books of the company,	\$187,279 16
Profit and loss balance,	3,503 59

\$190,782 75

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
At works,	\$8,214 17	
For gas bought,	432 41	
distribution,	1,684 42	
management,	2,911 86	
taxes,	600 54	
incidentals,	675 96	
	<hr/>	
	\$14,519 36	
Operating expenses (electric):		
At station,	\$3,384 20	
For distribution,	1,115 75	
management,	1,438 49	
taxes,	161 27	
incidentals,	298 26	
	<hr/>	
	6,397 97	
Income from sale of gas,		\$19,915 39
sale of electricity,		7,235 29
Balance to profit and loss:		
Gas,	5,396 03	
Electric,	837 32	
	<hr/>	
	\$27,150 68	\$27,150 68

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$3,908 69
Balance of gas manufacturing account,		5,396 03
Balance of electric manufacturing account,		837 32
Interest received,		284 16
Rents,		300 00
Jobbing,		545 08
Interest paid,	\$4,842 69	
Dividends declared,	2,925 00	
Balance June 30, 1912,	3,503 59	
	<hr/>	
	\$11,271 28	\$11,271 28

SPRINGFIELD (ELECTRIC).

(See UNITED ELECTRIC LIGHT COMPANY.)

SPRINGFIELD GAS LIGHT COMPANY.

ASSETS.									
Real estate,	.	.	.	.	.	.	.	.	\$528,805 32
Machinery and manufacturing appliances,	.	.	.	.	.	.	.	.	790,134 79
Street mains,	.	.	.	.	.	.	.	.	645,431 03
Services,	.	.	.	.	.	.	.	.	26,148 76
Meters,	.	.	.	.	.	.	.	.	258,157 44
Gas arc lamps,	.	.	.	.	.	.	.	.	30,318 25
Due for gas,	.	.	.	.	.	.	.	.	15,303 20
Gas coal on hand,	.	.	.	.	.	.	.	.	21,471 65
Coke on hand,	.	.	.	.	.	.	.	.	2,642 41
Tar, etc., on hand,	.	.	.	.	.	.	.	.	7,495 68
Ammoniacal liquor on hand,	.	.	.	.	.	.	.	.	910 30
Enrichers on hand,	.	.	.	.	.	.	.	.	1,946 61
Purifying materials on hand,	.	.	.	.	.	.	.	.	1,337 90
Other materials on hand,	.	.	.	.	.	.	.	.	66,309 33
Fixtures, tools, etc., on hand,	.	.	.	.	.	.	.	.	12,605 25
Horses, wagons, etc.,	.	.	.	.	.	.	.	.	19,048 32
Sundry accounts due the company,	.	.	.	.	.	.	.	.	64,414 63
Office furniture,	.	.	.	.	.	.	.	.	9,933 59
Cash on hand,	.	.	.	.	.	.	.	.	39,484 75
Notes receivable,	.	.	.	.	.	.	.	.	9,000 00
Reserved fund,	.	.	.	.	.	.	.	.	21,119 50
Total assets, as per books of the company,									\$2,572,018 71
LIABILITIES.									
Capital stock,	.	.	.	.	.	.	.	.	\$1,137,500 00
Notes payable,	.	.	.	.	.	.	.	.	465,000 00
Unpaid bills,	.	.	.	.	.	.	.	.	31,436 20
Deposits,	.	.	.	.	.	.	.	.	10,216 46
Premium on capital stock,	.	.	.	.	.	.	.	.	637,500 00
Interest accrued but not due,	.	.	.	.	.	.	.	.	2,656 05
Reserved funds,	.	.	.	.	.	.	.	.	8,203 41
Depreciation fund,	.	.	.	.	.	.	.	.	5,000 00
Amounts due from the company, not included above,	.	.	.	.	.	.	.	.	3,354 67
Total liabilities, as per books of the company,									\$2,300,866 79
Profit and loss balance,	.	.	.	.	.	.	.	.	271,151 92
									\$2,572,018 71

MANUFACTURING ACCOUNT.									
Operating expenses:				Dr.			Cr.		
At works,	.	.	.	\$253,203	01				
For distribution,	.	.	.	58,576	25				
management,	.	.	.	74,344	77				
taxes,	.	.	.	46,292	85				
incidentals,	.	.	.	11,046	72				
				\$443,463	60				
Income from sale of gas,	.	.	.				\$557,907	78	
residuals,	.	.	.				44,271	63	
other sources,	.	.	.				122	32	
Balance to profit and loss,	.	.	.	158,838	13				
				\$602,301	73		\$602,301	73	

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$260,777 80
Balance of manufacturing account,		158,838 13
Interest received,		6,652 83
Rents,		1,078 59
Jobbing,		1,654 74
Other items of income,		5,698 87
Interest paid,	\$18,161 83	
Dividends declared,	136,500 00	
Depreciation fund,	6,448 40	
Other items,	2,438 81	
Balance June 30, 1912,	271,151 92	
	<hr/>	<hr/>
	\$434,700 96	\$434,700 96

STEAM AND POWER COMPANY.

(Boston.)

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$17,219 43	
Income from sale of electricity,		\$19,132 70
Balance to profit and loss,	1,913 '27	
	<hr/>	<hr/>
	\$19,132 70	\$19,132 70

STONEHAM.

(See PEOPLE'S GAS AND ELECTRIC COMPANY.)

STOCKBRIDGE LIGHTING COMPANY.

ASSETS.

Electric plant,	\$945 90
Electric lines,	42,880 99
Transformers,	3,075 92
Meters,	2,389 25
Due for electricity,	1,520 88
Sundry accounts due the company,	142 54
Cash on hand,	1,529 87

Total assets, as per books of the company, \$52,485 35

LIABILITIES.

Capital stock,	\$40,000 00
Notes payable,	8,800 00
Unpaid bills,	1,551 70

Total liabilities, as per books of the company, \$50,351 70
 Profit and loss balance, 2,133 65

\$52,485 35

MANUFACTURING ACCOUNT.

Operating expenses:		Dr.	Cr.
At station,	\$71 92		
For electricity bought,	3,574 65		
distribution,	1,815 94		
management,	1,120 07		
taxes,	502 00		
incidentals,	245 00		
		\$7,329 58	
Income from sale of electricity,			\$12,937 97
other sources,			33 40
Balance to profit and loss,		5,641 79	
		<u>\$12,971 37</u>	<u>\$12,971 37</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$1,613 67
Balance of manufacturing account,		5,641 79
Interest paid,	\$127 50	
Dividends declared,	2,400 00	
Depreciation,	2,594 31	
Balance June 30, 1912,	2,133 65	
	<u>\$7,255 46</u>	<u>\$7,255 46</u>

SUBURBAN GAS AND ELECTRIC COMPANY.

ASSETS.

Machinery and manufacturing appliances,	\$38,763 47
Street mains,	247,261 98
Services,	57,223 68
Meters,	79,441 82
Due for gas,	3,286 71
Other gas materials on hand,	8,560 28
Stoves on hand,	1,934 15
Gas fixtures, tools, etc., on hand,	809 40
Real estate (electric),	98,993 01
Steam plant (electric),	102,878 44
Electric plant,	56,597 63
Electric lines,	110,884 87
Transformers,	32,183 64
Meters (electric),	46,611 14
Arc lamps,	9,684 02
Work in process,	56,407 89
Due for electricity,	13,156 02
Fuel on hand (electric),	4,617 13
Carbons on hand,	216 64
Incandescent lamps on hand,	336 01
Other electric materials on hand,	12,726 20
Motors on hand,	107 00
Electric fixtures, tools, etc., on hand,	2,615 93
Horses, wagons, etc.,	12,406 76
Sundry accounts due the company,	16,375 85

Office furniture,	\$4,257 17
Cash on hand,	22,079 31
Investments,	32,500 00
<hr/>	
Total assets, as per books of the company,	\$1,072,916 15

LIABILITIES.

Capital stock,	\$684,500 00
Notes payable,	155,000 00
Unpaid bills,	20,845 59
Deposits,	11,657 50
Premium on capital stock,	96,900 00
Interest accrued but not due,	358 87
Reserved fund,	805 03
Depreciation fund,	15,000 00
Amounts due from the company, not included above,	2,473 64
<hr/>	
Total liabilities, as per books of the company,	\$987,540 63
Profit and loss balance,	85,375 52
<hr/>	
	\$1,072,916 15

MANUFACTURING ACCOUNT.

Operating expenses (gas):	Dr.	Cr.
At works,	\$43 80	
For gas bought,	56,307 32	
distribution,	13,743 31	
management,	18,264 03	
taxes,	9,938 46	
incidentals,	5,865 10	
	<hr/>	
	\$104,162 02	
Operating expenses (electric):		
At station,	\$28,592 27	
For electricity bought,	3,546 46	
distribution,	24,854 16	
management,	21,815 53	
taxes,	13,724 50	
incidentals,	10,089 17	
	<hr/>	
	102,622 09	
Income from sale of gas,		\$129,220 52
sale of electricity,		162,751 80
other sources (electric),		2,567 40
Balance to profit and loss:		
Gas,	25,058 50	
Electric,	62,697 11	
	<hr/>	
	\$294,539 72	\$294,539 72

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$78,458 50
Balance of gas manufacturing account,		25,058 50
Balance of electric manufacturing account,		62,697 11
Interest received,		284 80
Rents,		872 30
Jobbing,		2,064 71
Other items of income,		2,054 40

	Dr.	Cr.
Interest paid,	\$4,783 84	
Dividends declared,	61,310 50	
Depreciation fund,	15,979 63	
Other items,	4,040 83	
Balance June 30, 1912,	85,375 52	
	<hr/>	<hr/>
	\$171,490 32	\$171,490 32

SUNDERLAND ELECTRIC LIGHT AND POWER COMPANY.

ASSETS.

Electric lines,	\$4,752 64
Transformers,	645 49
Meters,	443 33
Due for electricity,	150 65
Other materials on hand,	63 17
Cash on hand,	488 92
	<hr/>
Total assets, as per books of the company,	\$6,544 20
Profit and loss balance,	4,997 00
	<hr/>
	\$11,541 20

LIABILITIES.

Capital stock,	\$11,000 00
Notes payable,	500 00
Unpaid bills,	41 20
	<hr/>
Total liabilities, as per books of the company,	\$11,541 20

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
For electricity bought,	\$1,666 56	
distribution,	224 91	
management,	132 14	
taxes,	194 58	
	<hr/>	
	\$2,218 19	
Income from sale of electricity,		\$2,838 63
Balance to profit and loss,	620 44	
	<hr/>	<hr/>
	\$2,838 63	\$2,838 63

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$584 58
Balance of manufacturing account,		620 44
Interest paid,	\$13 59	
Dividends declared,	1,100 00	
Depreciation,	5,084 73	
Other items,	3 70	
Balance June 30, 1912,		4,997 00
	<hr/>	<hr/>
	\$6,202 02	\$6,202 02

SUNDERLAND GAS COMPANY.

ASSETS.

Real estate,	\$400 00
Machinery and manufacturing appliances,	200 00
Street mains,	550 00
Meters,	50 00
Cash on hand,	162 10

Total assets, as per books of the company, \$1,362 10

LIABILITIES.

Capital stock,	\$1,200 00
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Total liabilities, as per books of the company, \$1,200 00

Profit and loss balance,	162 10
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\$1,362 10

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$226 44	
For management,	26 50	
taxes,	13 73	
	\$266 67	
Income from sale of gas,		\$282 95
Balance to profit and loss,	16 28	
	\$282 95	\$282 95

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$193 82
Balance of manufacturing account,		16 28
Dividends declared,	\$48 00	
Balance June 30, 1912,	162 10	
	\$210 10	\$210 10

TAUNTON GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$49,000 00
Machinery and manufacturing appliances,	124,000 00
Street mains,	120,000 00
Meters,	15,000 00
Due for gas,	19,170 70
Coal on hand,	8,041 10
Coke on hand,	1,688 83
Tar on hand,	2,075 50
Enrichers on hand,	297 00
Purifying materials on hand,	595 00
Other materials on hand,	480 60
Stoves on hand,	987 50
Fixtures, tools, etc., on hand,	8,850 64

Sundry accounts due the company,	\$5,009 99
Cash on hand,	7,181 85
Investments,	3,000 00
<hr/>	
Total assets, as per books of the company,	\$365,378 71

LIABILITIES.

Capital stock,	\$220,000 00
Notes payable,	20,000 00
Unpaid bills,	1,108 95
Deposits,	736 45
Premium on capital stock,	48,000 00
<hr/>	
Total liabilities, as per books of the company,	\$289,845 40
Profit and loss balance,	75,533 31
<hr/>	
	\$365,378 71

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At works,	\$82,563 26	
For distribution,	9,237 74	
management,	8,922 37	
taxes,	8,125 90	
incidentals,	1,208 50	
	<hr/>	
	\$110,057 77	
Income from sale of gas,		\$124,547 41
residuals,		23,348 13
other sources,		6 90
Balance to profit and loss,	37,844 67	
	<hr/>	<hr/>
	\$147,902 44	\$147,902 44

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$74,504 71
Balance of manufacturing account,		37,844 67
Interest received,		32 03
Rents,		260 00
Jobbing,		234 34
Interest paid,	\$705 58	
Dividends declared,	22,000 00	
Depreciation,	14,561 86	
Other items,	75 00	
Balance June 30, 1912,	75,533 31	
	<hr/>	<hr/>
	\$112,875 75	\$112,875 75

TOWNSEND ELECTRIC PLANT.

(See U. S. ADAMS.)

TURNERS FALLS.

(See FRANKLIN ELECTRIC LIGHT COMPANY.)

TYNGSBOROUGH ELECTRIC LIGHT COMPANY.

Assets.									
Electric plant,	.	.	.	.	.	.	.	.	\$2,505 14
Electric lines, .	.	.	.	.	.	.	.	.	5,376 63
Transformers, .	.	.	.	.	.	.	.	.	1,059 40
Meters, .	.	.	.	.	.	.	.	.	563 54
Due for electricity, .	.	.	.	.	.	.	.	.	231 22
Incandescent lamps on hand,	.	.	.	.	.	.	.	.	61 28
Other materials on hand, .	.	.	.	.	.	.	.	.	2 00
Fixtures, tools, etc., on hand,	.	.	.	.	.	.	.	.	22 35
Cash on hand,	.	.	.	.	.	.	.	.	278 61
Total assets, as per books of the company,									\$10,100 17
Profit and loss balance,									1,851 51
									<u>\$11,951 68</u>

LIABILITIES.

Capital stock,	\$7,500 00
Unpaid bills,	4,451 68
	<hr/>
Total liabilities, as per books of the company,	\$11,951 68

MANUFACTURING ACCOUNT.

Operating expenses:		Dr.	Cr.
At station,	\$1,423 74		
For distribution, . . .	247 66		
management,	188 35		
taxes,	38 90		
	<hr/>	\$1,898 65	
Income from sale of electricity,			\$1,363 79
Balance to profit and loss,			534 86
		<hr/>	<hr/>
		\$1,898 65	\$1,898 65

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$1,291 95	
Balance of manufacturing account,	534 86	
Other items of income,		\$20 30
Interest paid,	20 00	
Other items,	25 00	
Balance June 30, 1912,		1,851 51
	<hr/>	<hr/>
	\$1,871 81	\$1,871 81

UNION ELECTRIC LIGHT COMPANY.

(Franklin.)

	Assets.	
Real estate,		\$7,582 88
Steam plant,		14,265 58
Electric plant,		20,353 59
Electric lines,		96,387 18

Transformers,	\$8,877 28
Meters,	8,851 53
Arc lamps,	4,895 39
Due for electricity,	10,873 70
Fuel on hand,	26 45
Incandescent lamps on hand,	649 45
Other materials on hand,	5,533 78
Fixtures, tools, etc., on hand,	1,004 80
Horses, wagons, automobile, etc.,	1,589 19
Sundry accounts due the company,	1,686 03
Office furniture,	1,134 16
Cash on hand,	84,459 09
Insurance and interest,	459 81

Total assets, as per books of the company,	\$268,629 89
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LIABILITIES.

Capital stock,	\$93,800 00
Notes payable,	144,423 65
Unpaid bills,	6,302 17
Amounts due from the company, not included above,	3,620 31

Total liabilities, as per books of the company,	\$248,146 13
Profit and loss balance,	20,483 76

\$268,629 89

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$910 65	
For electricity bought,	13,862 18	
distribution,	3,975 41	
management,	2,646 88	
taxes,	1,355 75	
incidentals,	341 48	
	<hr/>	
	\$23,092 35	
Income from sale of electricity,		\$29,045 93
Balance to profit and loss,	5,953 58	
	<hr/>	<hr/>
	\$29,045 93	\$29,045 93

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$225 47
Balance of manufacturing account,		5,953 58
Interest received,		130 57
Reserve account transferred,		4,000 00
Jobbing,		783 93
Voluntary assessment of stockholders,		16,430 67
Other items of income,		69 96
Interest paid,	\$5,452 70	
Dividends declared,	1,200 00	
Other items,	457 72	
Balance June 30, 1912,	20,483 76	
	<hr/>	<hr/>
	\$27,594 18	\$27,594 18

UNITED ELECTRIC LIGHT COMPANY.

(Springfield.)

ASSETS.										
Real estate,	.	.	.	.	.	.	.	.	.	\$527,339 34
Steam plant,	.	.	.	.	.	.	.	.	.	525,736 87
Electric plant,	.	.	.	.	.	.	.	.	.	260,974 89
Electric lines,	.	.	.	.	.	.	.	.	.	1,027,559 39
Transformers,	.	.	.	.	.	.	.	.	.	135,727 85
Meters,	.	.	.	.	.	.	.	.	.	105,057 96
Arc lamps,	.	.	.	.	.	.	.	.	.	32,194 11
Due for electricity,	.	.	.	.	.	.	.	.	.	46,265 56
Fuel on hand,	.	.	.	.	.	.	.	.	.	12,571 76
Carbons on hand,	.	.	.	.	.	.	.	.	.	1,310 92
Incandescent lamps on hand,	.	.	.	.	.	.	.	.	.	19,922 68
Other materials on hand,	.	.	.	.	.	.	.	.	.	34,893 41
Motors and tools on hand,	.	.	.	.	.	.	.	.	.	1,515 19
Horses, wagons, etc.,	.	.	.	.	.	.	.	.	.	10,000 00
Sundry accounts due the company,	.	.	.	.	.	.	.	.	.	3,124 68
Cash on hand,	.	.	.	.	.	.	.	.	.	7,355 01
Sinking fund,	.	.	.	.	.	.	.	.	.	132,797 55
Investments,	.	.	.	.	.	.	.	.	.	250,000 00
										<hr/>
Total assets, as per books of the company,	.	.	.	.	.	.	.	.	.	\$3,134,347 17

LIABILITIES.										
Capital stock,	.	.	.	.	.	.	.	.	.	\$1,500,000 00
Bonds issued,	.	.	.	.	.	.	.	.	.	200,000 00
Notes payable,	.	.	.	.	.	.	.	.	.	296,000 00
Unpaid bills,	.	.	.	.	.	.	.	.	.	16,250 71
Deposits,	.	.	.	.	.	.	.	.	.	5,073 95
Sinking fund instalments paid,	.	.	.	.	.	.	.	.	.	132,797 55
Premium on capital stock,	.	.	.	.	.	.	.	.	.	565,000 00
Depreciation fund,	.	.	.	.	.	.	.	.	.	200,000 00
Amounts due from the company, not included above,	.	.	.	.	.	.	.	.	.	15,000 00
										<hr/>
Total liabilities, as per books of the company,	.	.	.	.	.	.	.	.	.	\$2,930,122 21
Profit and loss balance,	.	.	.	.	.	.	.	.	.	204,224 96
										<hr/>
										\$3,134,347 17

MANUFACTURING ACCOUNT.										
Operating expenses:						DR.			CR.	
At station,	.	.	.	\$153,242 14						
For distribution,	.	.	.	72,863 76						
management,	.	.	.	54,588 10						
taxes,	.	.	.	54,971 32						
incidentals,	.	.	.	10,666 96						
				<hr/>		\$346,332 28				
Income from sale of electricity,	.	.	.						\$651,572 70	
Balance to profit and loss,	.	.	.			305,240 42				
						<hr/>			<hr/>	
						\$651,572 70			\$651,572 70	

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$161,950 67
Balance of manufacturing account,		305,240 42
Interest received,		5,700 16
Jobbing,		2,005 11
Other items of income,		36 95
Interest paid,	\$21,819 38	
Dividends declared,	150,000 00	
Reserved fund,	11,700 16	
Depreciation,	52,272 89	
Depreciation fund,	32,000 00	
Other items,	2,915 92	
Balance June 30, 1912,	204,224 96	
	<hr/>	<hr/>
	\$474,933 31	\$474,933 31

VINEYARD HAVEN GAS AND ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$1,260 90
Machinery and manufacturing appliances,	2,091 34
Street mains,	4,714 25
Services,	50 34
Meters,	747 65
Due for gas,	307 38
Carbide on hand,	575 00
Fixtures on hand,	867 10
Sundry accounts due the company,	270 32
Cash on hand,	214 96

Total assets, as per books of the company, \$11,099 24

LIABILITIES.

Capital stock,	\$10,000 00
Depreciation fund,	642 69

Total liabilities, as per books of the company, \$10,642 69
 Profit and loss balance, 456 55

\$11,099 24

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses:		
At works,	\$1,842 60	
For distribution,	325 80	
management,	297 21	
taxes,	154 75	
	<hr/>	
	\$2,620 36	
Income from sale of gas,		\$2,405 62
Balance to profit and loss,		214 74
	<hr/>	<hr/>
	\$2,620 36	\$2,620 36

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$671 29
Balance of manufacturing account,	\$214 74	
Balance June 30, 1912,	456 55	
	<hr/>	<hr/>
	\$671 29	\$671 29

VINEYARD LIGHTING COMPANY.

(Oak Bluffs.)

ASSETS.

Real estate (gas),	\$2,759 05
Machinery and manufacturing appliances (gas),	9,474 81
Street mains (gas),	8,378 56
Services (gas),	389 21
Meters (gas),	2,287 30
Due for gas,	737 62
Gas coal on hand,	1,529 66
Enrichers on hand,	25 90
Other gas materials and stoves on hand,	201 12
Real estate (electric),	10,422 57
Steam plant (electric),	23,885 87
Electric plant,	14,108 92
Electric lines,	23,696 02
Transformers,	2,126 18
Meters (electric),	1,129 58
Arc lamps,	747 82
Due for electricity,	3,319 53
Fuel on hand (electric),	478 80
Oil and waste on hand,	35 00
Incandescent lamps on hand,	122 30
Other electric materials on hand,	121 00
Horses, wagons, etc.,	1,390 83
Sundry accounts due the company,	1,024 15
Office furniture,	207 70
Cash on hand,	1,588 83
Wharf,	1,460 57

Total assets, as per books of the company,	\$111,648 90
Profit and loss balance,	3,908 71
	<hr/>
	\$115,557 61

LIABILITIES.

Capital stock,	\$25,000 00
Notes payable,	6,430 00
Deposits,	189 00
Amounts due from the company, not included above,	83,938 61

Total liabilities, as per books of the company,	\$115,557 61
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MANUFACTURING ACCOUNT.

				Dr.	Cr.
Operating expenses (gas):					
At works,	.	.	.	\$2,874 11	
For distribution,	.	.	.	728 16	
management,	.	.	.	895 90	
taxes,	.	.	.	178 66	
incidentals,	.	.	.	105 15	
				<u>\$4,781 98</u>	
Operating expenses (electric):					
At station,	.	.	.	\$10,228 43	
For distribution,	.	.	.	3,716 57	
management,	.	.	.	1,968 47	
taxes,	.	.	.	449 77	
incidentals,	.	.	.	272 87	
				<u>\$16,636 11</u>	
Income from sale of gas,	.	.	.		\$4,754 36
sale of electricity,	.	.	.		20,097 24
Balance to profit and loss:					
Gas,	.	.	.		27 62
Electric,	.	.	.	3,461 13	
				<u>\$24,879 22</u>	<u>\$24,879 22</u>

PROFIT AND LOSS ACCOUNT.

				Dr.	Cr.
Balance June 30, 1911,	.	.	.	\$3,503 61	
Balance of gas manufacturing account,	.	.	.	27 62	
Balance of electric manufacturing account,	.	.	.		\$3,461 13
Interest paid,	.	.	.	3,791 70	
Other items,	.	.	.	46 91	
Balance June 30, 1912,	.	.	.		3,908 71
				<u>\$7,369 84</u>	<u>\$7,369 84</u>

WAITE AND SMITH.

(South Dartmouth.)

MANUFACTURING ACCOUNT.

				Dr.	Cr.
Operating expenses:					
At works,	.	.	.	\$293 75	
For distribution,	.	.	.	3 00	
taxes,	.	.	.	9 08	
				<u>\$305 83</u>	
Income from sale of gas,	.	.	.		\$501 72
Balance to profit and loss,	.	.	.	195 89	
				<u>\$501 72</u>	<u>\$501 72</u>

WARE.

(See OTIS COMPANY.)

WARE ELECTRIC COMPANY.

ASSETS.

Real estate,	\$7,252 00
Steam plant,	18,936 51
Electric plant,	18,949 78
Electric lines,	21,626 86
Transformers,	3,721 99
Meters,	2,090 07
Arc lamps,	3,915 36
Due for electricity,	2,243 90
Fuel on hand,	706 56
Carbons, incandescent lamps and other materials on hand,	2,165 47
Fixtures, tools, etc., on hand,	3,484 27
Sundry accounts due the company,	1,184 81
Office furniture,	764 31
Cash on hand,	442 38
Insurance,	83 32
Total assets, as per books of the company,	\$87,567 59

LIABILITIES.

Capital stock,	\$57,000 00
Notes payable,	20,000 00
Unpaid bills,	3,776 51
Amounts due from the company, not included above,	581 86
Total liabilities, as per books of the company,	\$81,358 37
Profit and loss balance,	6,209 22
	\$87,567 59

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$10,544 33	
For distribution,	1,876 76	
management,	2,386 06	
taxes,	818 93	
incidentals,	788 61	
	\$16,414 69	
Income from sale of electricity,		\$21,575 63
Balance to profit and loss,	5,160 94	
	\$21,575 63	\$21,575 63

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$6,948 74
Balance of manufacturing account,		5,160 94
Interest paid,	\$1,578 82	
Dividends declared,	2,400 00	
Depreciation,	1,561 08	
Other items,	360 56	
Balance June 30, 1912,	6,209 22	
	\$12,109 68	\$12,109 68

WEBSTER AND SOUTHBRIDGE GAS AND ELECTRIC COMPANY.

Assets.	
Real estate (gas),	\$21,107 09
Machinery and manufacturing appliances (gas),	34,000 00
Street mains (gas),	75,200 00
Meters (gas),	19,200 00
Due for gas,	6,546 26
Gas coal on hand,	339 40
Enrichers on hand,	355 64
Other gas materials on hand,	563 26
Stoves on hand,	1,063 63
Gas fixtures, tools, etc., on hand,	256 63
Real estate (electric),	43,447 69
Steam plant (electric),	63,200 00
Electric plant,	40,300 00
Electric lines,	81,200 00
Transformers,	19,200 00
Meters (electric),	13,900 00
Arc lamps,	4,700 00
Due for electricity,	18,149 31
Fuel on hand (electric),	1,075 75
Carbons on hand,	49 04
Incandescent lamps on hand,	927 24
Other electric materials on hand,	5,838 55
Motors on hand,	1,221 46
Electric fixtures, tools, etc., on hand,	1,257 59
Horses, wagons, etc.,	1,609 95
Sundry accounts due the company,	3,173 71
Office furniture,	1,069 60
Cash on hand,	1,174 10
Notes receivable,	1,194 17
Investments,	245 87
Total assets, as per books of the company,	\$461,565 94
LIABILITIES.	
Capital stock,	\$170,000 00
Bonds issued,	60,000 00
Notes payable,	145,066 95
Unpaid bills,	18,373 16
Interest accrued but not due,	312 50
Amounts due from the company, not included above,	42 90
Total liabilities, as per books of the company,	\$393,795 51
Profit and loss balance,	67,770 43
	\$461,565 94

MANUFACTURING ACCOUNT.					
Operating expenses (gas):					Dr. Cr.
At works,	.	.	.	\$18,830 93	
For distribution,	.	.	.	3,629 61	
management,	.	.	.	4,242 26	
taxes,	.	.	.	1,544 71	
incidentals,	.	.	.	717 63	
				<hr/>	\$28,965 14

	Dr.	Cr.
Operating expenses (electric):		
At station,	\$26,043 73	
For distribution,	9,502 12	
management,	8,199 56	
taxes,	3,089 44	
incidentals,	1,486 30	
	<u>\$48,321 15</u>	
Income from sale of gas,		\$44,996 66
sale of electricity,		86,351 93
other sources (electric),		130 00
Balance to profit and loss:		
Gas,	16,031 52	
Electric,	38,160 78	
	<u>\$131,478 59</u>	<u>\$131,478 59</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$52,517 62
Balance of gas manufacturing account,		16,031 52
Balance of electric manufacturing account,		38,160 78
Rents,		168 95
Interest paid,	\$8,913 06	
Dividends declared,	10,200 00	
Depreciation,	18,862 49	
Other items,	1,132 89	
Balance June 30, 1912,	67,770 43	
	<u>\$106,878 87</u>	<u>\$106,878 87</u>

WESTBOROUGH GAS AND ELECTRIC COMPANY.

ASSETS.

Real estate,	\$5,517 68
Steam plant,	7,922 28
Electric plant,	15,915 92
Electric lines,	29,597 13
Transformers,	7,469 12
Meters,	7,943 30
Arc lamps,	648 00
Motors on hand,	430 71
Sundry accounts due the company,	2,872 95
Office furniture,	280 30
Cash on hand,	1,127 05
Investments,	1,709 40
Total assets, as per books of the company,	<u>\$81,433 84</u>

LIABILITIES.

Capital stock,	\$36,500 00
Bonds issued,	10,000 00
Notes payable,	7,000 00
Unpaid bills,	11,212 23
Total liabilities, as per books of the company,	<u>\$64,712 23</u>
Profit and loss balance,	16,721 61
	<u>\$81,433 84</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$17,043 00
Interest received,		875 00
Rents from Marlborough Electric Co.,		3,650 00
Interest paid,	\$875 00	
Dividends declared,	3,650 00	
Other items,	321 39	
Balance June 30, 1912,	16,721 61	
	<u>\$21,568 00</u>	<u>\$21,568 00</u>

WESTON ELECTRIC LIGHT COMPANY.

ASSETS.

Steam plant,	\$2,000 00
Electric plant,	20,559 13
Electric lines,	45,237 75
Transformers,	8,420 00
Meters,	6,220 66
Due for electricity,	9,693 45
Horses, wagons, etc.,	1,671 00
Cash on hand,	1,010 91
Total assets, as per books of the company,	<u>\$94,812 90</u>

LIABILITIES.

Capital stock,	\$30,000 00
Notes payable,	26,200 00
Depreciation fund,	5,877 00
Amounts due from the company, not included above,	2,610 57
Total liabilities, as per books of the company,	<u>\$64,687 57</u>
Profit and loss balance,	30,125 33
	<u>\$94,812 90</u>

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$6,647 72	
For electricity bought,	3,554 63	
distribution,	3,434 65	
management,	1,877 57	
taxes,	882 45	
incidentals,	866 94	
	<u>\$17,263 96</u>	
Income from sale of electricity,		\$28,402 58
Balance to profit and loss,	11,138 62	
	<u>\$28,402 58</u>	<u>\$28,402 58</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$23,060 09
Balance of manufacturing account,		11,138 62
Interest paid,	\$1,073 38	
Dividends declared,	3,000 00	
Balance June 30, 1912,	30,125 33	
	<u>\$34,198 71</u>	<u>\$34,198 71</u>

WEYMOUTH LIGHT AND POWER COMPANY.

ASSETS.

Real estate,	\$38,653 71
Steam plant,	89,896 51
Electric plant,	35,677 23
Electric lines,	137,788 65
Transformers,	9,887 82
Meters,	13,175 74
Arc lamps,	3,222 94
Due for electricity,	11,069 48
Fuel on hand,	1,500 00
Carbons on hand,	12 17
Incandescent lamps on hand,	655 21
Other materials on hand,	1,321 26
Motors on hand,	9,768 87
Fixtures, tools, etc., on hand,	8,293 02
Horses, wagons, etc.,	2,506 99
Sundry accounts due the company,	526 58
Office furniture,	681 21
Cash on hand,	11,293 71
Total assets, as per books of the company,	\$375,931 10

LIABILITIES.

Capital stock,	\$220,000 00
Notes payable,	90,000 00
Unpaid bills,	35,775 96
Deposits,	20 00
Interest accrued but not due,	220 00
Amounts due from the company, not included above,	934 81
Total liabilities, as per books of the company,	\$346,950 77
Profit and loss balance,	28,980 33
	\$375,931 10

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$33,512 01	
For distribution,	7,281 88	
management,	3,759 49	
taxes,	2,106 35	
incidentals,	1,595 66	
	\$48,255 39	
Income from sale of electricity,		\$73,644 58
other sources,		1,020 62
Balance to profit and loss,	26,409 81	
	\$74,665 20	\$74,665 20

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$26,434 30
Balance of manufacturing account,		26,409 81
Interest received,		1,297 55

	Dr.	Cr.
Assessment on capital stock,		\$40,000 00
Other items of income,		344 95
Interest paid,	\$7,056 59	
Dividends declared,	8,000 00	
Depreciation,	50,000 00	
Other items,	449 69	
Balance June 30, 1911,	28,980 33	
	<hr/>	<hr/>
	\$94,486 61	\$94,486 61

WILLIAMSBURG.

(See MILL RIVER ELECTRIC LIGHT COMPANY.)

WILLIAMSTOWN GAS COMPANY.

ASSETS.		
Real estate (gas),		\$2,494 17
Machinery and manufacturing appliances (gas),		3,965 00
Street mains (gas),		23,777 68
Services (gas),		5,461 53
Meters (gas),		3,180 27
Due for gas,		1,025 89
Gas fixtures, tools, etc., on hand,		630 32
Electric lines,		17,475 71
Transformers,		5,979 88
Meters (electric),		6,029 14
Arc lamps,		840 73
Due for electricity,		2,217 09
Incandescent lamps on hand,		268 55
Other electric materials on hand,		32 00
Electric fixtures, tools, etc., on hand,		199 10
Horses, wagons, etc.,		226 00
Sundry accounts due the company,		624 11
Office furniture,		396 56
Investments,		4,000 00
		<hr/>
Total assets, as per books of the company,		\$78,823 73

LIABILITIES.		
Capital stock,		\$40,000 00
Notes payable,		19,500 00
Unpaid bills,		5,929 70
Deposits,		277 36
Unpaid dividends,		1,200 00
Amounts due from the company, not included above,		646 14
		<hr/>
Total liabilities, as per books of the company,		\$67,553 20
Profit and loss balance,		11,270 53
		<hr/>
		\$78,823 73

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses (gas):		
For gas bought,	\$5,420 84	
distribution,	1,379 75	
management,	1,527 31	
taxes,	779 81	
incidentals,	352 08	
	<hr/>	
	\$9,459 79	
Operating expenses (electric):		
For electricity bought,	\$5,586 63	
distribution,	2,267 78	
management,	2,519 67	
taxes,	782 45	
incidentals,	169 22	
	<hr/>	
	11,325 75	
Income from sale of gas,		\$8,223 74
sale of electricity,		18,925 76
Balance to profit and loss:		
Gas,		1,236 05
Electric,	7,600 01	
	<hr/>	<hr/>
	\$28,385 55	\$28,385 55

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$12,815 56
Balance of gas manufacturing account,	\$1,236 05	
Balance of electric manufacturing account,		7,600 01
Rents,		150 00
Interest paid,	1,656 80	
Dividends declared,	6,000 00	
Other items,	402 19	
Balance June 30, 1912,	11,270 53	
	<hr/>	<hr/>
	\$20,565 57	\$20,565 57

WINCHENDON ELECTRIC LIGHT AND POWER COMPANY.

ASSETS.

Real estate,	\$100,174 32
Electric plant,	13,334 04
Electric lines,	19,905 90
Transformers,	3,500 60
Meters,	5,569 74
Arc lamps,	957 40
Due for electricity,	3,405 22
Carbons on hand,	5 66
Incandescent lamps on hand,	173 40
Other materials on hand,	1,022 06
Motors on hand,	145 00
Fixtures, tools, etc., on hand,	359 39
Horses, wagons, automobile, etc.,	150 00
Sundry accounts due the company,	3,575 32
Office furniture,	437 85
Cash on hand,	1,593 67
Insurance,	286 65
Total assets, as per books of the company,	<hr/> \$154,596 22

LIABILITIES.

Capital stock,	\$12,000 00
Bonds issued,	6,500 00
Notes payable,	108,900 00
Unpaid bills,	409 18
Interest accrued but not due,	1,425 81
Amounts due from the company, not included above,	100 00

Total liabilities, as per books of the company,	\$129,334 99
Profit and loss balance,	25,261 23

\$154,596 22

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$1,862 42	
For distribution,	2,423 64	
management,	3,663 02	
taxes,	516 07	
incidentals,	431 74	
	<hr/>	
	\$8,896 89	
Income from sale of electricity,		\$18,273 93
Balance to profit and loss,	9,377 04	
	<hr/>	<hr/>
	\$18,273 93	\$18,273 93

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$20,990 02
Balance of manufacturing account,		9,377 04
Jobbing,		909 67
Interest paid,	\$5,794 95	
Depreciation,	141 38	
Other items,	79 17	
Balance June 30, 1912,	25,261 23	
	<hr/>	<hr/>
	\$31,276 73	\$31,276 73

WOBURN GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$18,079 76
Machinery and manufacturing appliances,	28,469 50
Street mains and services,	31,254 67
Meters,	3,737 18
Due for gas,	2,575 05
Gas coal on hand,	2,250 00
Coke on hand,	100 00
Tar on hand,	400 00
Enrichers on hand,	300 00
Other materials, stoves, fixtures, tools, etc., on hand,	1,375 97
Office furniture,	342 90
Cash on hand,	2,382 31
Investments,	3,000 00

Total assets, as per books of the company, \$94,267 34

LIABILITIES.

Capital stock,	\$45,100 00
Deposits,	219 00
Reserved fund,	3,000 00
<hr/>	
Total liabilities, as per books of the company,	\$48,319 00
Profit and loss balance,	45,948 34
<hr/>	
	\$94,267 34

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$13,875 38	
For distribution,	1,287 03	
management,	3,594 41	
taxes,	1,709 36	
incidentals,	2,104 25	
	<hr/>	
	\$22,570 43	
Income from sale of gas,		\$21,822 64
residuals,		3,193 54
other sources,		92 75
Balance to profit and loss,	2,538 50	
	<hr/>	<hr/>
	\$25,108 93	\$25,108 93

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$45,843 05
Balance of manufacturing account,		2,538 50
Interest received,		280 35
Jobbing,		894 44
Dividends declared,	\$3,608 00	
Balance June 30, 1912,	45,948 34	
	<hr/>	<hr/>
	\$49,556 34	\$49,556 34

WORCESTER COUNTY GAS COMPANY.

ASSETS.

Real estate,	\$23,167 35
Machinery and manufacturing appliances,	42,514 17
Street mains,	216,273 79
Services,	37,710 58
Meters,	12,700 50
Due for gas,	3,949 90
Gas coal on hand,	2,648 55
Enrichers on hand,	156 34
Purifying materials on hand,	30 35
Stoves, fixtures, tools, etc., on hand,	9,251 15
Horses, wagons, etc.,	3,430 58
Sundry accounts due the company,	1,382 27
Office furniture,	660 38
Cash on hand,	219 39
<hr/>	
Total assets, as per books of the company,	\$354,095 30
Profit and loss balance,	25,076 59
<hr/>	
	\$379,171 89

LIABILITIES.

Capital stock,	\$85,000 00
Notes payable,	282,900 00
Unpaid bills,	10,309 10
Deposits,	430 00
Amounts due from the company, not included above,	532 79
Total liabilities, as per books of the company,	\$379,171 89

MANUFACTURING ACCOUNT.

Operating expenses:				Dr.	Cr.
At works,	.	.	.	\$14,576 33	
For gas bought,	.	.	.	3,207 57	
distribution,	.	.	.	8,890 48	
management,	.	.	.	6,581 77	
taxes,	.	.	.	2,628 64	
incidentals,	.	.	.	1,295 18	
				<hr/>	
				\$37,179 97	
Income from sale of gas,	.	.	.		\$34,556 99
Balance to profit and loss,	.	.	.		2,622 98
				<hr/>	<hr/>
				\$37,179 97	\$37,179 97

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$8,601 58	
Balance of manufacturing account,	2,622 98	
Rents,		\$681 96
Jobbing,		1,219 95
Interest paid,	14,817 45	
Other items,	936 49	
Balance June 30, 1912,		25,076 59
	<hr/>	<hr/>
	\$26,978 50	\$26,978 50

WORCESTER ELECTRIC LIGHT COMPANY.

ASSETS.

Real estate,	\$312,416 75
Steam plant,	299,770 95
Electric plant,	149,927 79
Electric lines,	1,286,036 27
Transformers,	90,116 17
Meters,	53,839 16
Arc lamps,	20,643 25
Due for electricity,	54,153 57
Fuel on hand,	13,568 72
Carbons on hand,	812 55
Oil and waste on hand,	81 16
Incandescent lamps on hand,	14,329 17
Globes on hand,	652 53
Other materials on hand,	23,196 31
Fixtures, tools, etc., on hand,	52,168 07
Horses, wagons, automobiles, etc.,	12,830 99
Sundry accounts due the company,	9,777 23

Office furniture,	\$5,301 30
Cash on hand,	15,683 64
Leicester plant,	19,061 94
Total assets, as per books of the company,	<u>\$2,434,367 52</u>

LIABILITIES.

Capital stock,	\$1,000,000 00
Notes payable,	530,000 00
Unpaid bills,	77,728 79
Deposits,	2,802 50
Premium on capital stock,	490,000 00
Total liabilities, as per books of the company,	<u>\$2,100,529 29</u>
Profit and loss balance,	333,838 23
	<u>\$2,434,367 52</u>

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At station,	\$120,880 50	
distribution,	83,617 04	
management,	41,757 70	
taxes,	48,066 60	
incidentals,	19,961 46	
	<u>\$314,283 30</u>	
Income from sale of electricity,		\$562,407 84
other sources,		3,359 84
Balance to profit and loss,	251,484 38	
	<u>\$565,767 68</u>	<u>\$565,767 68</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$306,015 34
Balance of manufacturing account,		251,484 38
Interest received,		934 33
Rents,		295 50
Interest paid,	\$22,666 52	
Dividends declared,	100,000 00	
Depreciation,	102,224 80	
Balance June 30, 1912,	333,838 23	
	<u>\$558,729 55</u>	<u>\$558,729 55</u>

WORCESTER GAS LIGHT COMPANY.

ASSETS.

Real estate,	\$893,531 69
Machinery and manufacturing appliances,	978,314 82
Street mains,	187,212 82
Meters,	58,664 05
Due for gas,	54,905 08
Gas coal on hand,	68,427 99
Coke on hand,	8,145 85
Tar on hand,	3,991 23
Enrichers on hand,	4,847 21

Purifying materials on hand,	\$32 00
Other materials on hand,	14,016 52
Stoves, fixtures, tools, etc., on hand,	39,066 03
Cash on hand,	113,195 53

Total assets, as per books of the company, \$2,424,350 82

LIABILITIES.

Capital stock,	\$1,200,000 00
Notes payable,	196,000 00
Deposits,	62,460 93
Unpaid dividends,	24,048 00
Premium on capital stock,	650,000 00
Amounts due from the company, not included above,	36 75

Total liabilities, as per books of the company, \$2,132,545 68

Profit and loss balance, 291,805 14

\$2,424,350 82

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
At works,	\$332,930 15	.
For distribution,	56,445 85	
management,	31,554 60	
taxes,	49,396 69	
incidentals,	11,564 48	
	\$481,891 77	
Income from sale of gas,		\$612,436 04
residuals,		55,003 49
other sources,		607 50
Balance to profit and loss,	\$186,155 26	
	\$668,047 03	\$668,047 03

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$326,997 40
Balance of manufacturing account,		186,155 26
Interest received,		1,193 16
Rents,		638 04
Jobbing,		3 95
Other items of income,		4 17
Interest paid,	\$11,849 43	
Dividends declared,	138,000 00	
Depreciation,	73,337 41	
Balance June 30, 1912,	291,805 14	
	\$514,991 98	\$514,991 98

WORCESTER SUBURBAN ELECTRIC COMPANY.

ASSETS.

Real estate,	\$73,600 32
Steam plant,	82,627 96
Electric plant,	89,605 27
Electric lines,	237,919 32

Transformers,	\$29,267 39
Meters,	18,721 17
Arc lamps,	1 00
Work in process,	41,210 27
Due for electricity,	10,793 53
Fuel on hand,	6,750 79
Incandescent lamps on hand,	2,010 50
Other materials on hand,	37,998 37
Fixtures, tools, etc., on hand,	2,559 58
Horses, wagons and automobiles,	5,066 47
Sundry accounts due the company,	144 27
Office furniture,	2,372 81
Cash on hand,	8,492 51
Notes receivable,	750 00
Insurance, interest and taxes prepaid,	2,188 22
Consolidation and development expenses,	10,611 62
Total assets, as per books of the company,	\$662,691 37

LIABILITIES.

Capital stock,	\$400,000 00
Notes payable,	215,000 00
Unpaid bills,	26,721 90
Deposits,	306 00
Interest accrued but not due,	364 58
Reserved fund,	5,206 42
Amounts due from the company, not included above,	1,922 15
Total liabilities, as per books of the company,	\$649,521 05
Profit and loss balance,	13,170 32
	\$662,691 37

MANUFACTURING ACCOUNT.

Operating expenses:	DR.	CR.
At station,	\$36,763 58	
For electricity bought,	91 21	
distribution,	14,467 53	
management,	9,577 60	
taxes,	4,816 40	
incidentals,	2,593 23	
	<u>\$68,309 55</u>	
Income from sale of electricity,		\$102,874 02
Balance to profit and loss,	34,564 47	
	<u>\$102,874 02</u>	<u>\$102,874 02</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$11,796 59
Balance of manufacturing account,		34,564 47
Jobbing,		892 92
Interest paid,	\$1,609 96	
Dividends declared,	16,500 00	
Depreciation,	12,190 00	
Reserved fund,	600 00	
Other items,	3,183 70	
Balance June 30, 1912,	13,170 32	
	<u>\$47,253 98</u>	<u>\$47,253 98</u>

APPENDIX C. — MUNICIPALITIES.

**BALANCE SHEETS, MANUFACTURING AND PROFIT AND LOSS
ACCOUNTS TO JUNE 30, 1912.**

In these balance sheets the various plant assets represent the actual expenditures for these items, less depreciation charges; and the item of "cash or town treasury" includes the cash in the hands of the manager and the available unexpended balance of all appropriations except for depreciation fund, — that is to say, all appropriations, when they become subject to drafts by the manager, are treated as cash. Under the title of "appropriations and overdrafts" are included all those amounts which have been raised by direct taxation upon the estates in the town for new construction since the inception of the enterprise. When, as has frequently been done, the appropriation has by its terms been applicable, either to construction or maintenance, at the option of the management, only the amount actually expended for new construction and charged to the construction accounts has been treated as an appropriation for construction. While such appropriations are not strictly liabilities, in the ordinary acceptation of the term, they belong in any proper system of accounting on the same side of the ledger as bonds and notes outstanding and in the returns are for convenience grouped with them under the same designation.

[For other information about these plants see under title "MUNICIPAL OWNERSHIP" in the body of the report, and Appendix F.]

ASHBURNHAM.

ASSETS.

Real estate,	.	.	.	.	.	.	.	.	\$288 48
Electric plant,	.	.	.	.	.	.	.	.	1,346 22
Electric lines,	.	.	.	.	.	.	.	.	9,257 47
Transformers,	.	.	.	.	.	.	.	.	894 49
Meters,	.	.	.	.	.	.	.	.	1,528 84
Incandescent street lamps,	.	.	.	.	.	.	.	.	772 05
Due for electricity,	.	.	.	.	.	.	.	.	1,023 90
Other materials on hand,	.	.	.	.	.	.	.	.	278 92
Tools and appliances,	.	.	.	.	.	.	.	.	233 63
Sundry accounts receivable,	.	.	.	.	.	.	.	.	30 00
Office furniture,	.	.	.	.	.	.	.	.	39 36
Cash (or town treasury),	.	.	.	.	.	.	.	.	1,648 56
Depreciation fund,	.	.	.	.	.	.	.	.	482 09
Total assets, as per books of the plant,									\$17,824 01

LIABILITIES.

Appropriations for construction,	.	.	.	.	.	.	\$4,550 00
note payments,	.	.	.	.	.	.	2,500 00
Notes payable,	.	.	.	.	.	.	8,500 00
Unpaid bills,	.	.	.	.	.	.	147 30
Interest accrued but not due,	.	.	.	.	.	.	47 92
							<hr/>
Total liabilities, as per books of the plant,	.	.	.	.	.	.	\$15,745 22
Profit and loss balance,	.	.	.	.	.	.	2,078 79
							<hr/>
							\$17,824 01

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$3,724 28	
Income from sale of electricity,		\$4,360 69
other sources,		120 00
Balance to profit and loss,	756 41	
	<hr/>	<hr/>
	\$4,480 69	\$4,480 69

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$1,974 23
Balance of manufacturing account,		756 41
Appropriation for operating expenses,		140 35
Interest paid,	\$370 42	
Depreciation,	421 78	
Balance June 30, 1912,	2,078 79	
	<hr/>	<hr/>
	\$2,870 99	\$2,870 99

BELMONT.

ASSETS.

Electric lines,	\$21,904 17
Transformers,	2,747 68
Meters,	10,174 12
Arc lamps,	776 22
Incandescent street lamps,	2,416 70
Due for electricity,	1,655 69
Other materials on hand,	120 00
Tools and appliances,	560 00
Horses, wagons, etc.,	410 00
Sundry accounts receivable,	427 78
Cash (or town treasury),	1,363 50
Insurance,	163 60
Sinking funds,	3,920 00
	<hr/>
Total assets, as per books of the plant,	\$46,639 46
Profit and loss balance,	8,046 85
	<hr/>
	\$54,686 31

LIABILITIES.

Appropriations for construction,	\$31,414 00
Overdrafts for construction,	2,805 64
Appropriations for note payments,	1,500 00
sinking funds,	3,920 00
Bonds outstanding,	14,000 00
Notes payable,	1,000 00
Interest accrued but not due,	46 67
	<hr/>
Total liabilities, as per books of the plant,	\$54,686 31

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$20,110 89	
Income from sale of electricity,		\$16,636 04
Balance to profit and loss,		3,474 85
	<hr/>	<hr/>
	\$20,110 89	\$20,110 89

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,	\$5,999 56	
Balance of manufacturing account,	3,474 85	
Appropriations for operating expenses,		\$1,427 56
interest,		610 00
depreciation,		1,458 00
Interest paid,	610 00	
Depreciation,	1,458 00	
Balance June 30, 1912,		8,046 85
	<hr/>	<hr/>
	\$11,542 41	\$11,542 41

BRAINTREE.

ASSETS.

Real estate,	\$10,211 79
Steam plant,	12,431 35
Electric plant,	12,246 93
Electric lines,	29,492 18
Transformers,	4,940 45
Meters,	13,890 04
Incandescent street lamps,	2,439 10
Due for electricity,	6,453 77
Fuel on hand,	2,350 11
Oil and waste on hand,	202 50
Incandescent lamps on hand,	1,075 90
Other materials on hand,	3,244 40
Tools and appliances,	1,116 75
Horses, wagons, etc.,	1,530 00
Office furniture,	415 00
Cash (or town treasury),	3,376 46
Depreciation fund,	16,272 07
Sinking funds,	11,697 32
	<hr/>
Total assets, as per books of the plant,	\$133,386 12
Profit and loss balance,	22,531 16

\$155,917 28

LIABILITIES.

Appropriations for construction,	\$67,091 78
note payments,	64,000 00
sinking funds,	8,170 00
Bonds outstanding,	16,500 00
Interest accrued but not due,	155 50

Total liabilities, as per books of the plant, \$155,917 28

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$21,478 66	
Income from sale of electricity,		\$24,042 99
other sources,		750 76
Balance to profit and loss,	3,315 09	
	<hr/>	<hr/>
	\$24,793 75	\$24,793 75

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$31,891 68	
Balance of manufacturing account,		\$3,315 09
Interest received,		192 94
Income from sinking funds,		448 11
Appropriations for operating expenses,		7,817 69
interest,		853 07
depreciation,		4,490 75
Other items of income,		38 35
Interest paid,	683 16	
Depreciation,	4,449 02	
Used for construction from miscellaneous income,	399 87	
Other items,	2,263 42	
Balance June 30, 1912,		22,531 16
	<hr/>	<hr/>
	\$39,687 16	\$39,687 16

CHICOPEE.

ASSETS.

Real estate,	\$17,435 83
Steam plant,	29,324 24
Electric plant,	29,281 61
Electric lines,	38,162 88
Transformers,	10,394 43
Meters,	14,429 25
Arc lamps,	9,917 21
Incandescent street lamps,	357 97
Due for electricity,	3,363 77
Fuel on hand,	1,640 00
Carbons on hand,	38 48
Oil and waste on hand,	43 27
Incandescent lamps on hand,	737 86
Globes on hand,	53 20
Other materials on hand,	2,555 58
Tools and appliances,	593 55
Horses, wagons, etc.,	1,212 50
Sundry accounts receivable,	90 72
Office furniture,	635 45
Cash (or city treasury),	114,566 13
Depreciation fund,	7,028 25
	<hr/>
Total assets, as per books of the plant,	\$281,862 18
Profit and loss balance,	30,890 75
	<hr/>
	\$312,752 93

LIABILITIES.

Appropriations for construction,	\$49,734 47
bond payments,	67,000 00
note payments,	14,000 00
Bonds outstanding,	162,000 00
Notes payable,	15,000 00
Unpaid bills,	4,053 87
Interest accrued but not due,	964 59
Total liabilities, as per books of the plant,	\$312,752 93

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$46,486 21	
Income from sale of electricity,		\$37,319 66
other sources,		2,626 45
Balance to profit and loss,		6,540 10
	\$46,486 21	\$46,486 21

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,	\$31,672 27	
Balance of manufacturing account,	6,540 10	
Appropriations for operating expenses,		\$4,666 92
interest,		2,819 52
depreciation,		7,028 25
Jobbing,		111 14
Adjustment supplies inventory,		699 10
Bond premiums,		3,081 60
Interest paid,	3,973 76	
Depreciation,	7,028 25	
Other items,	82 90	
Balance June 30, 1912,		30,890 75
	\$49,297 28	\$49,297 28

CONCORD.

ASSETS.

Real estate,	\$5,867 38
Steam plant,	22,165 31
Electric plant,	11,834 06
Electric lines,	37,993 91
Transformers,	3,654 03
Meters,	8,090 74
Arc lamps,	110 67
Incandescent street lamps,	3,185 84
Fire alarm system,	1,002 71
Due for electricity,	7,355 03
Fuel on hand,	1,784 00
Oil and waste on hand,	121 05
Incandescent lamps on hand,	822 62
Other materials on hand,	2,420 72
Tools and appliances,	2,009 00

Horses, wagons, and automobile,	\$571 50
Sundry accounts receivable,	2,787 31
Office furniture and supplies,	341 00
Cash (or town treasury),	5,674 90
Sinking funds,	26,726 15

Total assets, as per books of the plant,	\$144,517 93
Profit and loss balance,	37,134 64
	<hr/>
	\$181,652 57

LIABILITIES.

Appropriations for construction,	\$12,914 29
sinking funds,	24,241 80
Bonds outstanding,	116,000 00
Notes payable,	26,000 00
Unpaid bills,	386 95
Deposits,	55 00
Interest accrued but not due,	1,831 66
Cash overdrawn,	222 87

Total liabilities, as per books of the plant,	\$181,652 57
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MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$27,567 84	
Income from sale of electricity,		\$27,734 77
other sources,		2,605 89
Balance to profit and loss,	2,772 82	
	<hr/>	<hr/>
	\$30,340 66	\$30,340 66

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,	\$33,156 30	
Balance of manufacturing account,		\$2,772 82
Interest received,		15 00
Income from sinking funds,		901 29
Appropriation for operating expenses,		5,835 54
Other items of income,		9 88
Interest paid,	5,160 00	
Fire alarm system expenses and depreciation,	554 48	
Depreciation,	4,889 59	
Sinking fund appropriation,	2,680 00	
Other items,	228 80	
Balance June 30, 1912,		37,134 64
	<hr/>	<hr/>
	\$46,669 17	\$46,669 17

DANVERS.

ASSETS.

Real estate,	\$15,686 75
Steam plant,	37,864 66
Electric plant,	16,332 72
Electric lines,	34,287 46
Transformers,	5,625 35

Meters,	\$10,042 85
Arc lamps,	5,206 03
Due for electricity,	4,210 62
Fuel on hand,	495 17
Carbons on hand,	65 70
Oil and waste on hand,	49 58
Globes on hand,	130 84
Other materials on hand,	4,829 78
Tools and appliances,	2,835 56
Sundry accounts receivable,	1,192 37
Office furniture,	496 25
Depreciation fund,	1,173 77
Insurance,	266 22
Sinking funds,	29,813 55
<hr/>	
Total assets, as per books of the plant,	\$170,605 23

LIABILITIES.

Appropriations for construction,	\$23,051 69
extraordinary repairs,	1,330 10
bond payments,	15,000 00
sinking funds,	31,377 04
Bonds outstanding,	83,900 00
Notes payable,	12,500 00
Interest accrued but not due,	822 34
Other amounts due,	251 77
<hr/>	
Total liabilities, as per books of the plant,	\$168,232 94
Profit and loss balance,	2,372 29
<hr/>	
	\$170,605 23

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$29,554 24	
Income from sale of electricity,		\$36,868 50
Balance to profit and loss,	7,314 26	
<hr/>		<hr/>
	\$36,868 50	\$36,868 50

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$6,014 87
Balance of manufacturing account,		7,314 26
Income from sinking funds,		1,268 89
Appropriations for operating expenses,		1,539 93
depreciation,		4,032 57
Interest paid,	\$3,864 34	
Depreciation,	4,032 57	
Fire alarm expenses,	149 74	
Used for construction from miscellaneous income,	9,751 08	
Balance June 30, 1912,	2,372 29	
<hr/>		<hr/>
	\$20,170 02	\$20,170 02

GROTON.

ASSETS.

Real estate,	\$2,004 53
Electric plant,	1,296 07
Electric lines,	13,265 67
Transformers,	721 65
Meters,	859 76
Incandescent street lamps,	1,707 22
Due for electricity,	164 61
Incandescent lamps on hand,	48 15
Tools and appliances,	113 76
Office furniture,	115 30
Cash (or town treasury),	5,596 22
Depreciation fund,	1,337 37

Total assets, as per books of the plant,	\$27,230 31
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LIABILITIES.

Appropriations for construction,	\$5,172 09
note payments,	8,360 00
Notes payable,	12,860 00
Unpaid bills,	16 67
Interest accrued but not due,	106 55

Total liabilities, as per books of the plant,	\$26,515 31
Profit and loss balance,	715 00

\$27,230 31

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$3,032 01	
Income from sale of electricity,		\$1,868 26
Balance to profit and loss,		1,163 75
	<hr/>	<hr/>
	\$3,032 01	\$3,032 01

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$552 15
Balance of manufacturing account,	\$1,163 75	
Appropriations for operating expenses,		1,402 61
interest,		469 26
depreciation,		633 93
Jobbing,		2 00
Interest paid,	545 08	
Depreciation,	633 93	
Returned to town treasury unexpended balance on March 7, 1912,	2 19	
Balance June 30, 1912,	715 00	
	<hr/>	<hr/>
	\$3,059 95	\$3,059 95

GROVELAND.

ASSETS.

Real estate,	\$185 00
Electric plant,	1,137 64
Electric lines,	10,380 13
Transformers,	1,592 64
Meters,	1,408 23
Incandescent street lamps,	883 66
Due for electricity,	264 64
Incandescent lamps on hand,	46 70
Other materials on hand,	80 17
Tools and appliances,	83 69
Cash (or town treasury),	1,384 99
Depreciation fund,	124 68

Total assets, as per books of the plant, \$17,572 17

LIABILITIES.

Appropriations for construction,	\$1,350 00
note payments,	2,500 00
Notes payable,	13,000 00
Unpaid bills,	215 60
Interest accrued but not due,	146 25

Total liabilities, as per books of the plant, \$17,211 85

Profit and loss balance, 360 32

\$17,572 17

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$3,770 92	
Income from sale of electricity,		\$2,296 92
Balance to profit and loss,		1,474 00
	<hr/>	<hr/>
	\$3,770 92	\$3,770 92

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$607 14
Balance of manufacturing account,	\$1,474 00	
Appropriations for operating expenses,		1,223 22
interest,		585 00
depreciation,		450 00
Jobbing,		9 59
Interest paid,	590 63	
Depreciation,	450 00	
Balance June 30, 1912,	360 32	
	<hr/>	<hr/>
	\$2,874 95	\$2,874 95

HINGHAM.

ASSETS.

Electric lines,	\$27,421 59
Transformers,	2,646 86
Meters,	5,880 05
Due for electricity,	1,209 80
Incandescent lamps on hand,	331 66
Other materials on hand,	1,039 09
Tools and appliances,	678 08
Horses, wagons, and automobile,	1,055 35
Sundry accounts receivable,	274 77
Office furniture,	253 14
Cash (or town treasury),	9,271 04
Depreciation fund,	2,314 42

Total assets, as per books of the plant,	\$52,376 45
Profit and loss balance,	6,645 26

\$59,021 71

LIABILITIES.

Appropriations for construction,	\$36,911 71
note payments,	13,000 00
Notes payable,	9,000 00
Interest accrued but not due,	110 00

Total liabilities, as per books of the plant,	\$59,021 71
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MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$18,008 60	
Income from sale of electricity,		\$17,255 85
Balance to profit and loss,		752 75
	<hr/>	<hr/>
	\$18,008 60	\$18,008 60

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,	\$6,095 36	
Balance of manufacturing account,	752 75	
Appropriation for operations,		\$4,010 40
interest,		350 00
depreciation,		2,528 10
Jobbing,		1,365 26
Interest paid,	343 33	
Depreciation,	2,528 10	
Returned to town treasury — unexpended bal- ance on Dec. 31, 1911,	5,179 48	
Balance June 30, 1912,		6,645 26
	<hr/>	<hr/>
	\$14,899 02	\$14,899 02

HOLDEN.

ASSETS.

Real estate,	\$422 85
Electric plant,	775 00
Electric lines,	8,924 81
Transformers,	377 94
Meters,	353 50
Incandescent street lamps,	793 75
Due for electricity,	160 20
Incandescent lamps on hand,	395 56
Other electric materials on hand,	186 98
Tools and appliances,	56 73
Office furniture,	15 20
Cash (or town treasury),	3,446 75
Depreciation fund,	352 15

Total assets as per books of the plant,	<u>\$16,261 42</u>
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LIABILITIES.

Appropriations for construction,	\$2,870 00
note payments,	1,000 00
Notes payable,	10,000 00
Interest accrued but not due,	200 00

Total liabilities as per books of the plant,	<u>\$14,070 00</u>
Profit and loss balance,	2,191 42

<u>\$16,261 42</u>

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$622 12	
Income from sale of electricity,		\$357 84
Balance to profit and loss,		264 28
	<u>\$622 12</u>	<u>\$622 12</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance of manufacturing account,	\$264 28	
Appropriations for operations,		\$1,974 24
interest,		480 00
depreciation,		360 00
Other items of income,		201 46
Interest paid,	200 00	
Depreciation,	360 00	
Balance, June 30, 1912,	2,191 42	
	<u>\$3,015 70</u>	<u>\$3,015 70</u>

HOLYOKE.

ASSETS.

Real estate,	\$286,182 52
Machinery and manufacturing appliances (gas),	157,156 95
Street mains (gas),	181,838 36
Meters (gas),	94,525 88
Due for gas,	11,437 90
Coke on hand,	1,750 00
Tar on hand,	1,664 64
Purifying materials on hand,	2,095 00
Other gas materials on hand,	724 50
Gas oil on hand,	1,368 86
Tools and appliances (gas),	1,850 00
Water power plant,	13,606 67
Steam plant (electric),	253,509 98
Electric plant,	174,266 21
Electric lines,	92,060 26
Transformers,	45,468 25
Meters (electric),	59,186 65
Arc lamps,	23,090 45
Due for electricity,	27,004 71
Fuel on hand (electric),	2,200 00
Carbons on hand,	239 32
Oil and waste on hand,	81 63
Incandescent lamps on hand,	1,408 23
Globes on hand,	172 73
Tools and appliances (electric),	2,155 00
Horses, wagons, etc.,	4,225 00
Sundry accounts receivable,	1,491 90
Office furniture,	2,000 00
Cash (or city treasury),	181,373 28
Depreciation fund,	55,474 00
<hr/>	
Total assets, as per books of the plant,	\$1,679,606 88

LIABILITIES.

Appropriations for construction,	\$28,595 41
bond payments,	171,400 00
maintenance used for construction,	226,121 71
Bonds outstanding,	1,035,700 00
Unpaid bills,	19,952 20
Interest accrued but not due,	8,030 50
Amounts due, not included above,	82,382 87
<hr/>	
Total liabilities, as per books of the plant,	\$1,572,182 69
Profit and loss balance,	107,424 19
<hr/>	
	\$1,679,606 88

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
Gas,	\$126,242 22	
Electric,	180,370 44	

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GAS AND ELECTRIC LIGHT.

[Jan.

	Dr.	Cr.
Income from sale of gas,		\$182,385 42
residuals,		2,580 53
other sources (gas),		36 00
sale of electricity,		251,619 99
Balance to profit and loss:		
Gas,	\$58,759 73	
Electric,	71,249 55	
	<hr/>	<hr/>
	\$436,621 94	\$436,621 94

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$70,665 22
Balance of gas manufacturing account,		58,759 73
Balance of electric manufacturing account,		71,249 55
Appropriations for operations,		28,319 22
Interest received,		544 44
Bond premium,		7,566 16
Interest paid,	\$36,011 42	
Depreciation,	55,474 00	
Appropriations for operating used for construction,	37,677 21	
Other items,	517 50	
Balance June 30, 1912,	107,424 19	
	<hr/>	<hr/>
	\$237,104 32	\$237,104 32

HUDSON.

ASSETS.		
Real estate,		\$6,091 69
Steam plant,		13,207 38
Electric plant,		7,018 07
Electric lines,		14,621 39
Transformers,		4,388 18
Meters,		6,307 07
Arc lamps,		684 82
Incandescent street lamps,		1,828 48
Due for electricity,		1,929 45
Fuel on hand,		605 15
Carbons on hand,		10 25
Oil and waste on hand,		59 10
Incandescent lamps on hand,		380 85
Globes on hand,		5 68
Other materials on hand,		927 47
Tools and appliances,		683 04
Sundry accounts receivable,		207 86
Office furniture,		290 10
Cash (or town treasury),		6,369 84
Depreciation fund,		2,896 64
Insurance,		129 46
		<hr/>
Total assets, as per books of the plant,		\$68,641 97
Profit and loss balance,		24,443 41
		<hr/>
		\$93,085 38

LIABILITIES.

Appropriations for construction,	\$12,176 99
Overdrafts for construction,	15,940 30
Appropriations for extraordinary repairs,	1,500 00
note payments,	30,500 00
Notes payable,	32,500 00
Interest accrued but not due,	468 09
<hr/>	
Total liabilities, as per books of the plant,	\$93,085 38

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$16,400 41	
Income from sale of electricity,		\$20,319 79
other sources,		1,200 00
Balance to profit and loss,	5,119 38	
<hr/>		<hr/>
	\$21,519 79	\$21,519 79

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$23,646 02	
Balance of manufacturing account,		\$5,119 38
Interest received,		86 73
Appropriations used for operations,		726 10
Jobbing,		112 44
Interest paid,	1,203 34	
Depreciation,	2,598 90	
Note payments,	3,000 00	
Other items,	39 80	
Balance June 30, 1912,		24,443 41
<hr/>		<hr/>
	\$30,488 06	\$30,488 06

HULL.

ASSETS.

Real estate,	\$8,746 60
Steam plant,	20,507 12
Electric plant,	14,087 64
Electric lines,	37,469 43
Transformers,	9,997 67
Meters,	16,169 20
Arc lamps,	40 00
Nernst lamps,	190 49
Due for electricity,	7,255 65
Fuel on hand,	842 46
Carbons on hand,	4 35
Oil and waste on hand,	18 01
Incandescent lamps on hand,	529 25
Other materials on hand,	3,610 26
Tools and appliances,	799 78
Horses, wagons, etc.,	3,640 27
Office furniture,	1,070 01
Cash (or town treasury),	970 00

Depreciation fund,	\$1,767 73
Insurance,	262 04
Sinking funds,	74,780 80

Total assets, as per books of the plant,	\$202,758 76
Profit and loss balance,	51,569 96

\$254,328 72

LIABILITIES.

Appropriations for construction,	\$47,394 56
Overdraft for construction,	1,062 88
Appropriations for note payments,	19,400 00
sinking funds,	65,414 24
Bonds outstanding,	60,000 00
Notes payable,	39,202 00
Unpaid bills,	4,915 09
Interest accrued but not due,	1,711 11
Deposits,	8,298 71
Cash overdraft, for maintenance,	6,597 26
Amounts due from the plant, not included above,	332 87

Total liabilities, as per books of the plant,	\$254,328 72
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MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$33,810 08	
Income from sale of electricity,		\$37,255 44
other sources,		480 70
Balance to profit and loss,	3,926 06	
	<hr/> \$37,736 14	<hr/> \$37,736 14

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,	\$53,536 13	
Balance of manufacturing account,		\$3,926 06
Interest received,		5 37
Income from sinking funds,		4,156 17
Appropriations for operations,		26 85
depreciation,		5,804 29
Jobbing,		17 69
Other items of income,		1 92
Interest paid,	4,504 37	
Depreciation,	5,817 51	
New construction,	1,450 00	
Other items,	200 30	
Balance June 30, 1912,		51,569 96
	<hr/> \$65,508 31	<hr/> \$65,508 31

IPSWICH.

ASSETS.

Real estate,	\$7,843 73
Steam plant,	15,581 84
Electric plant,	9,482 87

Electric lines,	\$33,849 49
Transformers,	2,420 83
Meters,	2,595 89
Incandescent street lamps,	441 64
Due for electricity,	1,836 40
Oil and waste on hand,	22 40
Other materials on hand,	442 00
Tools and appliances,	325 42
Sundry accounts receivable,	400 38
Cash (or town treasury),	5,214 50
<hr/>	
Total assets, as per books of the plant,	\$80,457 39

LIABILITIES.	
Appropriations for construction,	\$1,511 06
note payments,	7,500 00
Notes payable,	64,250 00
Interest accrued but not due,	350 00
<hr/>	
Total liabilities, as per books of the plant,	\$73,611 06
Profit and loss balance,	6,846 33
<hr/>	
	\$80,457 39

MANUFACTURING ACCOUNT.						
					Dr.	Cr.
Operating expenses, .	.	.	.	.	\$13,402 32	
Income from sale of electricity, .	.	.	.	.		\$10,276 35
other sources, .	.	.	.	.		2,159 25
Balance to profit and loss, .	.	.	.	.		966 72
					<hr/>	<hr/>
					\$13,402 32	\$13,402 32

PROFIT AND LOSS ACCOUNT.									

MANSFIELD.	
ASSETS.	
Real estate,	\$11,030 14
Steam plant,	44,790 74
Electric plant,	18,332 52
Electric lines,	14,016 08
Transformers,	5,492 81
Meters,	5,647 99

Incandescent street lamps,	\$1,396 71
Due for electricity,	1,605 68
Fuel on hand,	90 00
Oil and waste on hand,	60 00
Incandescent lamps on hand,	285 00
Other materials on hand,	1,428 54
Tools and appliances,	330 00
Sundry accounts receivable,	964 49
Office furniture,	190 00
Cash (or town treasury),	5,614 15
Depreciation fund,	400 00
Sinking funds,	9,978 17

Total assets, as per books of the plant, \$121,653 02

LIABILITIES.

Appropriations for construction,	\$4,842 82
bond payments,	6,466 75
sinking funds,	8,500 00
Bonds outstanding,	96,500 00
Interest accrued but not due,	993 33

Total liabilities, as per books of the plant, \$117,302 90
Profit and loss balance, 4,350 12

\$121,653 02

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$18,783 39	
Income from sale of electricity,		\$18,297 24
Balance to profit and loss,		486 15
	<u>\$18,783 39</u>	<u>\$18,783 39</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$4,578 50
Balance of manufacturing account,	\$486 15	
Bond premiums,		533 25
Income from sinking funds,		424 86
Appropriation for operation,		752 26
interest,		5,380 00
Jobbing,		117 25
Other items of income,		15
Interest paid,	3,740 00	
Depreciation,	3,210 00	
Balance June 30, 1912,	4,350 12	
	<u>\$11,786 27</u>	<u>\$11,786 27</u>

MARBLEHEAD.

ASSETS.

Real estate,	\$26,137 21
Steam plant,	26,301 49
Electric plant,	19,356 09

Electric lines,	\$22,449 24
Transformers,	10,719 36
Meters,	15,263 23
Arc lamps,	10,882 16
Incandescent street lamps,	97 33
Due for electricity,	458 74
Fuel on hand,	12 77
Carbons on hand,	42 75
Oil and waste on hand,	19 08
Incandescent lamps on hand,	319 10
Globes on hand,	4 00
Other materials on hand,	23 00
Tools and appliances,	454 24
Horses, wagons, automobiles,	1,793 62
Office furniture,	549 09
Cash (or town treasury),	3,798 10
Depreciation fund,	4,888 59
Sinking funds,	23,300 54

Total assets, as per books of the plant,	\$166,869 73
Profit and loss balance,	38,651 69
	<hr/>
	\$205,521 42

LIABILITIES.

Appropriations for construction,	\$73,742 82
Overdraft for construction,	1,065 27
Appropriations for bond payments,	10,000 00
note payments,	23,500 00
sinking funds,	18,000 00
Bonds outstanding,	78,000 00
Interest accrued but not due,	1,213 33

Total liabilities, as per books of the plant,	\$205,521 42
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MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$30,536 00	
Income from sale of electricity,		\$34,542 84
Balance to profit and loss,	4,006 84	
	<hr/>	<hr/>
	\$34,542 84	\$34,542 84

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,	\$42,799 92	
Balance of manufacturing account,		\$4,006 84
Appropriation for operations,		1,743 52
interest,		3,133 33
depreciation,		5,464 70
Interest from sinking funds,		774 34
Interest paid,	3,179 99	
Depreciation,	5,464 70	
Returned to town treasury — unexpended balance,		
Jan. 31, 1912,	2,004 13	
Other items,	325 68	
Balance June 30, 1912,		38,651 69
	<hr/>	<hr/>
	\$53,774 42	\$53,774 42

MERRIMAC.

ASSETS.

Steam plant,	\$3,045 59
Electric plant,	3,027 46
Electric lines,	11,059 81
Transformers,	2,521 22
Meters,	1,543 96
Due for electricity,	743 35
Fuel on hand,	1,021 05
Incandescent lamps on hand,	269 70
Tools and appliances,	123 80
Other accounts receivable,	599 96
Cash (or town treasury),	2,658 11
Depreciation fund,	2,922 08
Total assets, as per books of the plant,	\$29,536 09

LIABILITIES.

Appropriations for construction,	\$4,753 16
Overdrafts for construction,	322 67
Appropriations for bond payments,	3,000 00
note payments,	679 80
Bonds outstanding,	7,500 00
Notes payable,	4,200 00
Unpaid bills,	96 64
Interest accrued but not due,	219 17
Total liabilities, as per books of the plant,	\$20,771 44
Profit and loss balance,	8,764 65
	\$29,536 09

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$7,338 09	
Income from sale of electricity,		\$8,069 86
Balance to profit and loss,	731 77	
	\$8,069 86	\$8,069 86

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$8,041 89
Balance of manufacturing account,		731 77
Interest received,		78 57
Appropriation for interest,		418 00
depreciation,		765 89
Interest paid,	\$481 17	
Depreciation,	765 89	
Other items,	24 41	
Balance June 30, 1912,	8,764 65	
	\$10,036 12	\$10,036 12

MIDDLEBOROUGH.

ASSETS.

Real estate,	\$14,315 74
Machinery and manufacturing appliances (gas),	13,169 85
Street mains (gas),	10,220 44
Meters (gas),	1,086 77
Due for gas,	825 34
Gas coal on hand,	2 50
Coke on hand,	54 60
Gas oil on hand,	417 63
Tools and appliances (gas),	239 59
Water power,	9,840 80
Steam plant (electric),	1,109 56
Electric plant,	4,401 99
Gas engine plant,	15,081 03
Electric lines,	8,371 71
Transformers,	4,021 36
Meters (electric),	7,355 04
Arc lamps,	719 66
Incandescent street lamps,	926 21
Due for electricity,	5,403 19
Fuel on hand (electric),	24 00
Carbons on hand,	11 23
Oil and waste on hand,	61 32
Incandescent lamps on hand,	71 20
Other electric materials on hand,	1,626 12
Tools and appliances (electric),	999 29
Horses, wagons, etc.,	101 50
Sundry accounts receivable,	3,307 87
Office furniture,	194 85
Cash (or town treasury),	5,269 03
Depreciation fund,	428 50
<hr/>	
Total assets, as per books of the plant,	\$109,657 92
Profit and loss balance,	46,337 01
<hr/>	
	\$155,994 93

LIABILITIES.

Appropriations for construction,	\$34,767 26
Overdrafts for construction,	335 13
Appropriations for extraordinary repairs,	2,890 00
bond payments,	34,500 00
note payments,	18,000 00
Bonds outstanding,	43,500 00
Notes payable,	21,200 00
Unpaid bills,	371 21
Interest accrued but not due,	431 33
<hr/>	
Total liabilities, as per books of the plant,	\$155,994 93

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
Gas,	\$5,116 20	
Electric,	15,208 85	

	Dr.	Cr.
Income from sale of gas,		\$2,705 53
sale of electricity,		22,289 59
Balance to profit and loss:		
Gas,		2,410 67
Electric,	7,080 74	
	<hr/>	<hr/>
	\$27,405 79	\$27,405 79

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$60,856 99	
Balance of gas manufacturing account,	2,410 67	
Balance of electric manufacturing account,		\$7,080 74
Appropriations for operation,		1,774 82
depreciation,		3,225 00
Contribution from the T. S. Peirce estate,		14,937 33
Interest paid,	2,628 00	
Depreciation,	5,637 10	
Suburban lighting,	472 40	
Other items,	1,349 74	
Balance June 30, 1912,		46,337 01
	<hr/>	<hr/>
	\$73,354 90	\$73,354 90

MILLERS FALLS WATER SUPPLY DISTRICT.

ASSETS.

Real estate,	\$1,035 05
Steam plant,	3,006 46
Electric plant,	1,887 31
Electric lines,	4,755 68
Transformers,	498 83
Meters,	892 26
Arc lamps,	10 74
Incandescent street lamps,	54 73
Due for electricity,	1,126 37
Tools and appliances,	27 19
Cash (or town treasury),	2,192 65
Depreciation fund,	1,014 64
Sinking funds,	2,334 10
	<hr/>
Total assets, as per books of the plant,	\$18,836 01

LIABILITIES.

Appropriations for construction,	\$294 64
sinking funds,	2,400 00
Bonds outstanding,	15,000 00
Unpaid bills,	141 40
Interest accrued but not due,	50 00
	<hr/>
Total liabilities, as per books of the plant,	\$17,886 04
Profit and loss balance,	949 97
	<hr/>
	\$18,836 01

MANUFACTURING ACCOUNT.		
	Dr.	Cr.
Operating expenses,	\$2,610 64	
Income from sale of electricity,		\$3,293 20
Balance to profit and loss,	682 56	
	<hr/>	<hr/>
	\$3,293 20	\$3,293 20
PROFIT AND LOSS ACCOUNT.		
	Dr.	Cr.
Balance June 30, 1911,		\$1,378 09
Balance of manufacturing account,		682 56
Interest from sinking funds,		89 32
Appropriation for depreciation,		415 59
Interest paid,	\$600 00	
Depreciation,	415 59	
Sinking fund payments — two years,	600 00	
Balance June 30, 1912,	949 97	
	<hr/>	<hr/>
	\$2,565 56	\$2,565 56

NORTH ATTLEBOROUGH.	
ASSETS.	
Real estate,	\$11,527 50
Steam plant,	26,411 24
Electric plant,	15,724 29
Electric lines,	23,352 32
Transformers,	7,162 21
Meters,	11,460 37
Arc lamps,	129 18
Incandescent street lamps,	249 27
Inside wiring,	178 92
Due for electricity,	2,338 02
Fuel on hand,	186 79
Carbons on hand,	4 87
Incandescent lamps on hand,	334 40
Globes on hand,	8 79
Other materials on hand,	2,424 69
Tools and appliances,	1,036 61
Horses, wagons, etc.,	36 55
Sundry accounts receivable,	262 65
Office furniture,	293 67
Cash (or town treasury),	8,041 05
Depreciation fund,	8,010 56
Sinking funds,	22,944 32
	<hr/>
Total assets, as per books of the plant,	\$142,118 27
Profit and loss balance,	13,248 36
	<hr/>
	\$155,366 63
LIABILITIES.	
Appropriations for construction,	\$27,526 82
Overdraft for construction,	881 73
Appropriations for note payments,	26,032 57
sinking funds,	19,502 43

Bonds outstanding,	\$50,000 00
Notes payable,	30,865 00
Unpaid bills,	333 16
Interest accrued but not due,	162 50
Amounts due from the plant, not included above,	62 42
Total liabilities, as per books of the plant,	\$155,366 63

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$23,462 35	
Income from sale of electricity,		\$27,055 45
Balance to profit and loss,	3,593 10	
	<u>\$27,055 45</u>	<u>\$27,055 45</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$10,868 91	
Balance of manufacturing account,		\$3,593 10
Income from sinking funds,		761 68
Appropriations for operations,		774 29
depreciation,		4,581 18
Jobbing,		17 41
Interest paid,	3,311 26	
Depreciation,	4,581 18	
Sinking fund payments,	1,500 00	
Note payments,	2,695 00	
Other items,	19 67	
Balance June 30, 1912,		13,248 36
	<u>\$22,976 02</u>	<u>\$22,976 02</u>

NORWOOD.

ASSETS.

Real estate,	\$6,313 53
Electric plant,	3,698 08
Electric lines,	46,661 20
Transformers,	5,921 94
Meters,	8,233 81
Incandescent street lamps,	2,136 99
Due for electricity,	4,790 85
Incandescent lamps on hand,	381 49
Other materials on hand,	1,764 52
Automobile,	140 00
Office furniture,	400 00
Cash (or town treasury),	2,005 92
Depreciation fund,	2,281 22
Insurance,	131 27
Total assets, as per books of the plant,	\$84,860 82

LIABILITIES.

Appropriations for construction,	\$12,551 59
note payments,	16,900 00
Notes payable,	40,000 00

Unpaid bills,	\$2,689 88
Interest accrued but not due,	143 75
<hr/>	
Total liabilities, as per books of the plant,	\$72,285 22
Profit and loss balance,	12,575 60
<hr/>	
	\$84,860 82

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$28,847 38	
Income from sale of electricity,		\$37,376 74
other sources,		690 02
Balance to profit and loss,	9,219 38	
<hr/>		<hr/>
	\$38,066 76	\$38,066 76

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$8,479 80
Balance of manufacturing account,		9,219 38
Appropriation for operations,		506 00
Jobbing,		222 11
Interest paid,	\$1,826 67	
Depreciation,	3,966 00	
Other items,	59 02	
Balance June 30, 1912,	12,575 60	
<hr/>		<hr/>
	\$18,427 29	\$18,427 29

PEABODY.

ASSETS.

Real estate,	\$10,169 81
Steam plant,	36,230 04
Electric plant,	27,115 60
Electric lines,	38,828 15
Transformers,	14,320 82
Meters,	13,369 22
Arc lamps,	1,883 60
Inside wiring,	768 95
Due for electricity,	10,798 12
Fuel on hand,	125 00
Carbons on hand,	60 00
Oil and waste on hand,	30 00
Incandescent lamps on hand,	505 00
Globes on hand,	60 00
Other materials on hand,	2,046 85
Tools and appliances,	200 00
Horses, wagons, etc.,	1,800 00
Cash (or town treasury),	5,260 80
Depreciation fund,	2,236 94
Sinking funds,	21,061 51
<hr/>	
Total assets, as per books of the plant,	\$186,870 41
Profit and loss balance,	22,141 88
<hr/>	
	\$209,012 29

LIABILITIES.

Appropriations for construction,	\$69,450 70
Overdrafts for construction,	4,663 77
Appropriations for bond payments,	6,000 00
note payments,	22,700 00
sinking funds,	16,000 00
Bonds outstanding,	88,000 00
Unpaid bills,	1,364 49
Interest accrued but not due,	833 33
<hr/>	
Total liabilities, as per books of the plant,	\$209,012 29

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$47,436 23	
Income from sale of electricity,		\$48,036 48
other sources,		800 00
Balance to profit and loss,	1,400 25	
<hr/>		<hr/>
	\$48,836 48	\$48,836 48

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$25,886 38	
Balance of manufacturing account,		\$1,400 25
Income from sinking funds,		849 34
Appropriation for operations,		3,306 45
interest,		3,280 00
depreciation,		6,286 50
Interest paid,	3,402 50	
Depreciation,	6,286 50	
Returned to town treasury — unavailable funds to Jan. 15, 1912,	1,689 04	
Balance June 30, 1912,		22,141 88
<hr/>		<hr/>
	\$37,264 42	\$37,264 42

READING.

ASSETS.

Real estate,	\$11,526 59
Steam plant,	10,332 61
Electric plant,	12,973 10
Electric lines,	47,065 45
Transformers,	7,262 34
Meters,	10,964 64
Arc lamps,	4,238 25
Incandescent street lamps,	3,040 03
Due for electricity,	4,702 22
Fuel on hand,	641 75
Carbons on hand,	7 33
Oil and waste on hand,	36 27
Incandescent lamps on hand,	721 03
Globes on hand,	31 36
Other materials on hand,	6,629 00

Tools and appliances,	\$1,287 07
Horses, wagons, etc.,	1,158 75
Sundry accounts receivable,	62 48
Office furniture,	660 24
Cash (or town treasury),	3,664 53
Depreciation fund,	4,143 80
Insurance,	660 96

Total assets, as per books of the plant,	\$131,809 80
Profit and loss balance,	38,375 46

\$170,185 26

LIABILITIES.

Appropriations for construction,	\$27,415 04
Overdraft for construction,	3,211 64
Appropriations for bond payments,	33,000 00
note payments,	23,200 00
Bonds outstanding,	62,000 00
Notes payable,	16,000 00
Unpaid bills,	3,368 65
Deposits,	1,028 22
Interest accrued but not due,	961 71

Total liabilities, as per books of the plant,	\$170,185 26
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MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$27,525 75	
Income from sale of electricity,		\$33,018 81
other sources,		708 14
Balance to profit and loss,	6,201 20	
	<hr/> \$33,726 95	<hr/> \$33,726 95

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$36,131 95	
Balance of manufacturing account,		\$6,201 20
Interest received,		43 40
Appropriations for operations,		529 38
Jobbing,		255 01
Interest paid,	2,862 68	
Depreciation,	4,143 80	
Previous receipts used for note payments,	2,200 00	
Other items,	66 02	
Balance June 30, 1912,		38,375 46
	<hr/> \$45,404 45	<hr/> \$45,404 45

ROWLEY.

ASSETS.

Real estate,	\$344 17
Electric plant,	523 60
Electric lines,	10,991 07
Transformers,	704 51

Meters,	\$611 23
Incandescent street lamps,	1,366 58
Due for electricity,	187 48
Other materials on hand,	255 20
Tools and appliances,	29 98
Sundry accounts receivable,	257 22
Cash (or town treasury),	3,820 74
Depreciation fund,	450 00

Total assets, as per books of the plant,	\$19,541 78
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LIABILITIES.

Appropriation for construction,	\$3,201 00
note payments,	1,480 00
Notes payable,	14,120 00
Unpaid bills,	320 83
Interest accrued but not due,	37 52

Total liabilities, as per books of the plant,	\$19,159 35
Profit and loss balance.	382 43

\$19,541 78

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$1,732 78	
Income from sale of electricity,		\$1,305 30
Balance to profit and loss,		427 48
	<hr/>	<hr/>
	\$1,732 78	\$1,732 78

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,	\$355 41	
Balance of manufacturing account,	427 48	
Appropriation for operations,		\$1,266 87
interest,		572 00
depreciation,		450 00
Other items of income,		5 60
Interest paid,	529 49	
Depreciation,	450 00	
Returned to town treasury—unused appropri- tion,	100 00	
Other items,	49 66	
Balance June 30, 1912,	382 43	
	<hr/>	<hr/>
	\$2,294 47	\$2,294 47

SHREWSBURY.

ASSETS.

Real estate,	\$544 99
Electric plant,	2,472 36
Electric lines,	27,915 43
Transformers,	451 47
Meters,	1,131 57
Incandescent street lamps,	708 03

Due for electricity,	\$818 26
Incandescent lamps on hand,	102 00
Tools and appliances,	213 63
Cash (or town treasury),	4,949 31
Depreciation fund,	2,444 62

Total assets, as per books of the plant,	<u>\$41,751 67</u>
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LIABILITIES.

Appropriations for construction,	\$10,236 03
note payments,	5,500 00
Notes payable,	22,800 00
Unpaid bills,	472 08
Interest accrued but not due,	254 26

Total liabilities, as per books of the plant,	<u>\$39,262 37</u>
Profit and loss balance,	2,489 30

	<u>\$41,751 67</u>
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MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$5,790 57	
Income from sale of electricity,		\$5,334 12
Balance to profit and loss,		456 45
	<u>\$5,790 57</u>	<u>\$5,790 57</u>

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$1,310 84
Balance of manufacturing account,	\$456 45	
Interest received,		28 79
Appropriation for operation,		2,430 95
interest,		1,110 18
depreciation,		991 78
Interest paid,	886 99	
Depreciation,	991 78	
Return to town treasury — unavailable funds		
Jan. 31, 1912,	1,048 02	
Balance June 30, 1912,	2,489 30	
	<u>\$5,872 54</u>	<u>\$5,872 54</u>

STERLING.

ASSETS.

Real estate,	\$505 45
Electric plant,	537 79
Electric lines,	4,288 58
Transformers,	736 09
Meters,	404 03
Municipal wiring,	701 00
Incandescent street lamps,	175 20
Incandescent lamps on hand,	70 38
Other materials on hand,	107 55
Tools and appliances,	16 70

Office furniture,	\$17 40
Cash (or town treasury),	1,797 43
Depreciation fund,	191 70

Total assets as per books of the plant, \$9,549 30

LIABILITIES.

Appropriations for construction,	\$2,116 63
note payments,	600 00
Notes payable,	5,400 00
Unpaid bills,	355 47
Interest accrued but not due,	90 00

Total liabilities as per books of the plant, \$8,562 10

Profit and loss balance, 987 20

\$9,549 30

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$646 76	
Income from sale of electricity,		\$482 62
Other sources,		60 40
Balance to profit and loss,		103 74
	<hr/>	<hr/>
	\$646 76	\$646 76

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance of manufacturing account,	\$103 74	
Appropriation for operations,		\$1,182 38
interest,		216 00
depreciation,		210 00
Interest paid,	147 00	
Depreciation,	142 14	
Returned to town treasury — unavailable funds of Feb. 1, 1912,	210 90	
Other items,	17 40	
Balance, June 30, 1912,	987 20	
	<hr/>	<hr/>
	\$1,608 38	\$1,608 38

TAUNTON.

ASSETS.

Real estate,	\$59,823 33
Steam plant,	90,537 59
Electric plant,	54,549 57
Electric lines,	64,353 04
Transformers,	26,144 53
Meters,	14,733 04
Arc lamps,	13,649 65
Incandescent street lamps,	679 65
Due for electricity,	12,383 26
Fuel on hand,	2,335 80
Carbons on hand,	133 47
Oil and waste on hand,	66 20

Incandescent lamps on hand,	\$1,957 72
Globes on hand,	60 55
Other materials on hand,	468 53
Tools and appliances,	5,589 38
Horses, wagons and autos,	1,137 79
Sundry accounts receivable,	742 34
Office furniture,	1,504 56
Cash (or city treasury),	12,062 48
Depreciation fund,	12,123 26
Sinking funds,	103,606 27

Total assets, as per books of the plant,	\$478,642 01
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LIABILITIES.

Appropriations for construction,	\$23,437 28
note payments,	1,500 00
sinking funds,	62,104 29
Bonds outstanding,	364,000 00
Unpaid bills,	3,441 39
Interest accrued but not due,	1,112 90
Amounts due from the plant, not included above,	552 84

Total liabilities, as per books of the plant,	\$456,148 70
Profit and loss balance,	22,493 31

\$478,642 01

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses,	\$56,751 05	
Income from sale of electricity,		\$82,843 81
Balance to profit and loss,	26,092 76	
	<hr/>	<hr/>
	\$82,843 81	\$82,843 81

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$23,241 83
Balance of manufacturing account,		26,092 76
Income from sinking funds,		3,429 67
Appropriations for operation,		3,153 58
Interest paid,	\$13,670 00	
Depreciation,	11,271 93	
Sinking fund appropriation,	5,500 00	
Bad debts,	2,534 14	
Premium and interest on bond purchased,	448 46	
Balance June 30, 1912,	22,493 31	
	<hr/>	<hr/>
	\$55,917 84	\$55,917 84

TEMPLETON.

ASSETS.

Electric plant,	\$958 63
Electric lines,	23,217 52
Transformers,	1,404 19
Meters,	1,991 46

Arc lamps,	\$38 39
Incandescent street lamps,	303 18
Due for electricity,	1,189 51
Carbons on hand,	2 70
Incandescent lamps on hand,	370 78
Tools and appliances,	227 51
Sundry accounts receivable,	12 00
Office furniture,	140 38
Cash (or town treasury),	1,387 65
Depreciation fund,	1,585 34

Total assets, as per books of the plant,	\$32,829 24
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LIABILITIES.

Appropriations for construction,	\$5,009 70
note payments,	7,083 35
Notes payable,	18,633 32
Unpaid bills,	235 43

Total liabilities, as per books of the plant,	\$30,961 80
Profit and loss balance,	1,867 44

\$32,829 24

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$4,212 96	
Income from sale of electricity,		\$5,132 49
other sources,		359 70
Balance to profit and loss,	1,279 23	
	<hr/>	<hr/>
	\$5,492 19	\$5,492 19

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,		\$1,315 63
Balance of manufacturing account,		1,279 23
Rents,		12 00
Appropriation for operation,		30 70
depreciation,		834 78
Interest paid,	\$747 72	
Depreciation,	834 78	
Other items,	22 40	
Balance June 30, 1912,	1,867 44	
	<hr/>	<hr/>
	\$3,472 34	\$3,472 34

WAKEFIELD.

ASSETS.

Real estate,	\$20,982 91
Machinery and manufacturing appliances (gas),	45,499 92
Street mains (gas),	42,532 51
Meters (gas),	10,706 27
Due for gas,	3,450 60
Gas coal on hand,	4,155 47
Coke on hand,	1,200 00
Enrichers on hand,	112 87

Purifying materials on hand,	\$231 25
Other gas materials on hand,	2,318 31
Tools and appliances (gas),	1,098 92
Fire alarm supplies,	59 25
Fire alarm installation,	4,331 27
Steam plant (electric),	12,219 87
Electric plant,	12,322 05
Electric lines,	25,426 02
Transformers,	5,541 82
Meters (electric),	5,764 05
Arc lamps,	2,325 75
Incandescent street lamps,	202 57
Due for electricity,	1,670 38
Fuel on hand (electric),	175 51
Carbons on hand,	33 66
Oil and waste on hand,	24 80
Incandescent lamps on hand,	283 16
Globes on hand,	6 33
Other electric materials on hand,	4,951 70
Motors on hand,	524 75
Tools and appliances (electric),	844 85
Horses, wagons, etc.,	1,474 90
Sundry accounts receivable,	862 02
Office furniture,	649 00
Cash (or town treasury),	2,543 78
Depreciation fund,	1,213 10
Insurance,	847 57
<hr/>	
Total assets, as per books of the plant,	\$216,587 19
Profit and loss balance,	65,649 52
<hr/>	
	\$282,236 71

LIABILITIES.

Appropriations for construction,	\$42,581 12
bond payments,	93,500 00
note payments,	8,300 00
fire alarm construction,	2,822 38
Bonds outstanding,	128,500 00
Unpaid bills,	4,056 13
Deposits,	1,174 00
Interest accrued but not due,	1,303 08
<hr/>	
Total liabilities, as per books of the plant,	\$282,236 71

MANUFACTURING ACCOUNT.

Operating expenses:	Dr.	Cr.
Gas,	\$38,351 23	
Electric,	20,860 54	
Income from sale of gas,		\$37,423 94
residuals,		8,058 51
other sources (gas),		127 49
sale of electricity,		18,580 52
other sources (electric),		2,400 00
Balance to profit and loss:		
Gas,	7,258 71	
Electric,	119 98	
<hr/>		
	\$66,590 46	\$66,590 46

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$67,113 34	
Balance of gas manufacturing account,		\$7,258 71
Balance of electric manufacturing account,		119 98
Appropriation for operation,		1,819 29
fire alarm,		415 55
interest,		5,063 75
Jobbing,		603 06
Other items of income,		6 00
Interest paid,	5,181 93	
Fire alarm maintenance,	318 71	
Depreciation,	7,753 20	
Other items,	568 68	
Balance June 30, 1912,		656,49 52
	<u>\$80,935 86</u>	<u>\$80,935 86</u>

WELLESLEY.

ASSETS.

Real estate,	\$7,240 00
Electric plant,	4,613 00
Electric lines,	36,139 72
Transformers,	3,276 97
Meters,	5,866 01
Incandescent street lamps,	2,421 80
Due for electricity,	2,051 91
Incandescent lamps on hand,	787 40
Other materials on hand,	1,554 35
Tools and appliances,	183 00
Horses, wagons, etc.,	90 00
Sundry accounts receivable,	492 69
Office furniture,	300 50
Cash (or town treasury),	14,595 75
Depreciation fund,	1,528 94
Total assets, as per books of the plant,	<u>\$81,142 04</u>
Profit and loss balance,	2,756 76

\$83,898 80

LIABILITIES.

Appropriations for construction,	\$25,569 19
bond payments,	43,000 00
Bonds outstanding,	15,000 00
Unpaid bills,	129 61
Interest accrued but not due,	200 00

Total liabilities, as per books of the plant, \$83,898 80

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$23,505 70	
Income from sale of electricity,		\$28,092 54
Balance to profit and loss,	4,586 84	
	<u>\$28,092 54</u>	<u>\$28,092 54</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance June 30, 1911,	\$4,952 77	
Balance of manufacturing account,		\$4,586 84
Appropriation for operation,		683 90
Interest paid,	646 67	
Depreciation,	2,400 00	
Other items,	28 06	
Balance June 30, 1912,		2,756 76
	<u>\$8,027 50</u>	<u>\$8,027 50</u>

WEST BOYLSTON.

ASSETS.

Real estate,	\$842 50
Electric lines,	17,050 68
Transformers,	624 30
Meters,	763 84
Incandescent street lamps,	115 87
Due for electricity,	218 29
Incandescent lamps on hand,	131 22
Tools and appliances,	50 00
Office furniture,	25 00
Cash (or town treasury),	2,885 58
Depreciation fund,	918 22
Total assets, as per books of the plant,	<u>\$23,625 50</u>

LIABILITIES.

Appropriations for construction,	\$7,669 67
note payments,	2,000 00
Notes payable,	12,000 00
Interest accrued but not due,	25 33
Total liabilities, as per books of the plant,	<u>\$21,695 00</u>
Profit and loss balance,	1,930 50
	<u>\$23,625 50</u>

MANUFACTURING ACCOUNT.

	Dr.	Cr.
Operating expenses,	\$1,889 60	
Income from sale of electricity,		\$1,301 66
Balance to profit and loss,		587 94
	<u>\$1,889 60</u>	<u>\$1,889 60</u>

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance, June 30, 1911,		\$1,719 21
Balance of manufacturing account,	\$587 94	
Appropriation for operation,		817 12
interest,		500 00
depreciation,		578 93
Interest paid,	517 89	
Depreciation,	578 93	
Balance June 30, 1912,	1,930 50	
	<u>\$3,615 26</u>	<u>\$3,615 26</u>

WESTFIELD.

ASSETS.

Real estate,	\$55,138 77
Machinery and manufacturing appliances (gas),	24,713 73
Street mains (gas),	43,365 69
Meters (gas),	14,271 14
Due for gas,	6,787 73
Gas coal on hand,	598 76
Coke on hand,	840 00
Gas on hand,	102 83
Enrichers on hand,	200 00
Purifying materials on hand,	126 80
Other gas materials on hand,	6,415 76
Tools and appliances (gas),	481 02
Steam plant (electric),	31,403 95
Electric plant,	23,754 17
Electric lines,	18,937 04
Transformers,	8,729 06
Meters (electric),	6,497 75
Arc lamps,	3,767 01
Incandescent street lamps,	285 79
Inside wiring,	587 25
Due for electricity,	6,080 77
Fuel on hand (electric),	1,851 78
Carbons on hand,	167 42
Oil and waste on hand,	39 83
Incandescent lamps on hand,	704 44
Globes on hand,	45 70
Other electric materials on hand,	2,540 16
Tools and appliances (electric),	390 31
Sundry accounts receivable,	4,467 69
Office furniture,	571 75
Cash (or town treasury),	4,951 71
Depreciation fund,	12,881 35

Total assets, as per books of the plant,	\$281,697 16
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LIABILITIES.

Appropriations for construction,	\$52,000 00
Bonds outstanding,	136,000 00
Unpaid bills,	2,408 37
Deposits,	1,054 17
Interest due but not paid,	180 00
Interest accrued but not due,	878 33
Amounts due from the plant, not included above,	502 20

Total liabilities, as per books of the plant,	\$193,023 07
Profit and loss balance,	88,674 09

\$281,697 16

MANUFACTURING ACCOUNT.

	DR.	CR.
Operating expenses:		
Gas,	\$36,103 70	
Electric,	30,432 97	
Income from sale of gas,		\$40,423 20
residuals,		8,360 53
other sources (gas),		17 57
sale of electricity,		38,000 20
Balance to profit and loss:		
Gas,	12,697 60	
Electric,	7,567 23	
	<hr/>	<hr/>
	\$86,801 50	\$86,801 50

PROFIT AND LOSS ACCOUNT.

	DR.	CR.
Balance June 30, 1911,		\$117,992 81
Balance of gas manufacturing account,		12,697 60
Balance of electric manufacturing account,		7,567 23
Interest received,		2 67
Bond premiums,		348 00
Appropriations for operation,		1,666 00
Interest paid,	\$5,008 33	
Depreciation,	9,585 88	
Adjustment of cash receipts and disbursements as of Jan. 20, 1912,	34,822 73	
Losses on jobbing account,	2,183 28	
Balance June 30, 1911,	88,674 09	
	<hr/>	<hr/>
	\$140,274 31	\$140,274 31

APPENDIX D.—GAS COMPANIES STATISTICS.

TABLE 1. — Financial Statistics — Year ending June 30, 1912.

COMPANY.	Capital Stock.	STOCKHOLDERS.		Value at Par of Stock held in Massa-chusetts.	Assessed Value of Property.	TAXES PAID.		DIVIDENDS.		
		Whole Number.	Resident in Massa-chusetts.			Amount.	Per M. sold.	Amount.	Rate per Cent.	Per M. sold.
Adams,	\$60,000	5	3	\$59,800	\$59,400	\$625 56	\$0 0339	\$7,200 00	12	1 -
Amesbury,	60,000	7	7	60,000	72,800	1,426 68	0995	-	-	-
Amherst,	150,000	52	51	149,900	48,650	394 93	1204	6,000 00	6	1 -
Arlington,	100,000	6	4	99,800	113,042	2,050 56	0386	8,000 00	8	\$0 1505
Athol,	294,300	8	8	294,300	297,200	605 07	0606	24,180 00	10	1 -
Attleboro,	58,000	25	22	53,900	191,450	3,432 34	0599	6,960 00	12	1214
Atwood, L. Sidney(Chatham),	-	-	-	-	400	6 53	1543	-	-	1 9151
Barre,	2,400	4	4	2,400	3,700	57 22	-	-	-	-
Barnardston,	2,300	7	7	2,300	500	8 07	3365	-	-	-
Beverly,	437,500	68	67	435,600	735,810	3,931 10	0576	43,404 00	12	1 -
Blackstone,	10,000	4	4	10,000	35,000	377 94	1078	-	-	-
Boston,	15,124,600	15	15	15,124,600	18,444,900	429,780 20	0773	1,361,214 00	9	2448
Brockton,	559,000	133	129	545,600	566,450	14,070 85	0650	33,540 00	6	1549
Cambridge,	1,440,000	681	606	128,820	2,459,300	57,536 49	0754	120,000 00	10	1574
Charlestown,	600,000	368	322	538,550	1,002,000	22,742 64	0852	75,000 00	12½	1 -
Chicopee,	166,500	25	13	50,000	256,290	5,118 25	0915	6,660 00	4	1191
Citizens' (Nantucket),	26,000	68	67	25,600	20,115	159 11	0354	-	-	-
Citizens' (Quincy),	383,000	8	8	383,000	338,175	6,420 00	0852	17,235 00	4½	2287
Clinton,	123,000	6	4	122,000	190,200	1,827 93	0940	6,150 00	5	1 -
Cotuit,	-	-	-	-	670	-	-	-	-	-
Danvers,	-	-	-	-	-	790 18	-	1,350 00	4½	-
Dedham,	141,750	8	7	141,700	114,850	3,160 00	0542	14,175 00	10	2431
East Boston,	575,000	24	20	572,375	762,400	22,830 00	0608	57,500 00	10	1533
Easthampton,	200,000	63	58	195,600	210,700	794 41	0587	9,750 00	10 6	1 -
Edison (Brockton),	948,800	303	280	921,700	" -	226 13	2817	75,904 00	8	1 -
Fall River,	690,000	343	316	654,300	1,852,700	40,836 46	0741	82,800 00	12	1503

TABLE 1. — Financial Statistics, etc.— Concluded.

COMPANY.	Capital Stock.	STOCKHOLDERS.		Value at Par of Stock held in Massachusetts.	Assessed Value of Property.	TAXES PAID.		DIVIDENDS.		
		Whole Number.	Resident in Massachusetts.			Amount.	Per M. sold.	Amount.	Rate per Cent.	Per M. sold.
Norwood,	\$72,000	4	4	\$72,000	\$78,500	\$777 83	\$0 0483	\$4,320 00	6	\$0 2680
Old Colony,	100,000	5	5	100,000	145,044	—	—	1 —	—	—
Otis Co. (Ware),	—	—	—	—	29,000	589 79	0560	—	—	—
People's (Stoneham),	40,000	1	1	40,000	51,150	375 57	0407	1 —	—	—
Pittsfield,	396,000	96	87	381,400	339,650	10,694 58	0717	27,720 00	7	1860
Plymouth,	40,000	38	32	37,700	37,200	1,035 02	0785	2,800 00	7	2125
Sadler, T. G. (S. Attleborough),	—	—	—	—	1,000	18 05	1920	—	—	—
Salem,	499,600	226	211	489,100	572,200	17,554 27	1043	44,964 00	9	2671
South Hadley,	5,000	22	22	5,000	2,000	110 85	7607	125 00	2½	8578
Spencer,	97,500	6	4	97,300	45,900	600 54	0408	2,925 00	3	—
Springfield,	1,137,500	404	236	462,800	2,349,800	46,292 85	0668	136,500 00	12	1970
Suburban (Revere),	684,500	14	12	680,300	981,900	9,938 46	0754	61,310 50	49	—
Sunderland,	1,200	4	4	1,200	250	13 73	7280	48 00	4	2 5452
Taunton,	220,000	181	169	201,050	142,000	8,125 90	0642	22,000 00	10	1739
Vineyard Haven,	10,000	4	4	10,000	8,400	154 75	9450	1 —	—	—
Vineyard (Oak Bluffs),	25,000	4	4	25,000	47,940	178 66	1111	1 —	—	—
Waite & Smith (S. Dartmouth),	—	—	—	—	600	9 08	3619	—	—	—
Webster,	170,000	95	89	166,200	316,250	1,544 71	0428	10,200 00	6	—
Williamstown,	40,000	5	3	9,800	50,000	779 81	1010	6,000 00	15	—
Woburn,	45,100	41	39	44,100	75,000	1,709 36	1074	3,608 00	8	2266
Worcester County,	85,000	6	4	82,500	142,000	2,628 64	1202	1 —	—	—
Worcester,	1,200,000	313	286	1,105,500	2,128,000	49,396 69	0630	138,000 00	12	1761
	—	—	—	—	\$51,246,036	\$1,095,735 89	—	\$3,368,089 30	—	—

1 No dividends declared.

2 Unincorporated.

3 Dividends paid in part from electric profits.

4 Two and one-half per cent. on \$677,200; two per cent. on \$678,900; four and one-half per cent. on \$684,500.

5 Par value, \$50.

TABLE 2.

The following table shows the amount of gas made and the amount bought in the years ending June 30, 1911, and June 30, 1912, the amount sold by meter and for public lamps in both those years; the amount used at works and offices, with the amount of gas unaccounted for during the year ending June 30, 1912, and the percentage of unaccounted for gas in both years: —

Coal and Water-gas Companies.

COMPANY.	Gas made. Year ending June 30, 1912.	Gas made. Year ending June 30, 1911.	Gas bought. Year ending June 30, 1912.	Gas bought. Year ending June 30, 1911.	Gas sold by Meter. Year ending June 30, 1912.	Gas sold by Meter. Year ending June 30, 1911.	Gas sold for Public Lamps. Year ending June 30, 1912.	Gas sold for Public Lamps. Year ending June 30, 1911.	Gas used at Works and Offices. Year ending June 30, 1912.	Gas unaccounted for. Year ending June 30, 1912.	Percentage unaccounted for, 1912.	Percentage unaccounted for, 1911.
Adams,	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.		
Amesbury,	17,887,600	15,549,600	20,412,300	17,933,500	18,426,500	16,030,000	-	-	159,100	1,826,700	8.95	9.97
Amherst,	4,213,841	2,425,041	-	-	14,345,300	12,900,500	-	-	400,000	3,142,300	17.57	14.46
Arlington,	56,061,200	43,709,400	-	-	3,280,108	1,873,910	-	-	25,400	909,933	21.59	21.74
Athol,	11,106,450	10,008,520	-	-	50,020,000	39,570,600	-	-	526,400	2,363,000	4.22	6.19
Attleboro,	61,575,100	55,916,800	-	-	9,979,000	9,651,136	-	-	314,800	862,650	7.77	3.21
Beverly,	76,401,700	67,450,800	-	-	57,326,278	52,915,652	-	-	443,500	3,805,322	6.18	4.59
Blackstone,	-	-	3,699,600	3,023,800	65,520,900	53,978,400	-	-	408,300	7,732,800	10.12	7.36
Boston,	3,158,682,000	3,052,048,000	2,612,382,000	2,425,069,600	3,699,600	3,023,800	142,833,474	141,756,815	12,181,900	197,717,151	3.43	3.34
Brockton,	249,561,000	244,117,400	-	-	4,637,490,075	4,399,089,388	-	-	2,535,800	30,408,600	12.18	12.43
Cambridge,	798,929,000	767,478,000	-	-	757,498,687	712,042,948	4,527,560	4,478,621	4,330,400	32,407,153	4.06	6.06
Charlestown,	299,718,326	288,562,249	537,000	1,153,000	260,779,000	249,192,800	6,090,289	6,095,234	1,949,400	31,446,637	10.47	11.21
Chicopee,	-	-	66,138,200	62,235,200	55,929,900	54,038,100	-	-	954,600	9,253,700	13.99	11.91
Citizens' (Nantucket),	5,140,790	3,838,910	-	-	4,473,500	3,450,000	18,000	18,000	188,800	460,490	8.96	6.96
Citizens' (Quincy),	-	-	83,453,000	67,906,000	71,857,832	57,910,349	3,476,186	3,264,200	358,200	7,743,782	9.28	9.23
Clinton,	21,366,000	21,313,000	-	-	19,449,100	19,413,600	-	-	109,300	1,832,450	8.58	8.05
Danvers,	-	-	2,727,200	8,253,400	2,721,800 ¹	8,228,900	-	-	5,400	-	-	-
Dedham,	-	-	64,303,800	59,549,500	57,997,800	54,347,000	238,300	543,900	108,400	5,866,500	9.12	7.48

¹ For three months.

Coal and Water-gas Companies — Concluded.

COMPANY.	Gas made. Year ending June 30, 1912.	Gas made. Year ending June 30, 1911.	Gas bought. Year ending June 30, 1912.	Gas bought. Year ending June 30, 1911.	Gas sold by Meter. Year ending June 30, 1912.	Gas sold by Meter. Year ending June 30, 1911.	Gas sold for Public Lamps. Year ending June 30, 1912.	Gas sold for Public Lamps. Year ending June 30, 1911.	Gas used at Works and Offices. Year ending June 30, 1912.	Gas unaccounted for. Year ending June 30, 1912.	Percentage unaccounted for, 1912.	Percentage unaccounted for, 1911.
	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.		
East Boston,	188,254,000	132,824,000	200,280,000	221,223,000	349,972,787	313,599,075	12,761,719	12,498,997	1,766,600	11,615,772	2.99	3.63
Easthampton,	16,270,720	14,659,220	-	-	13,529,800	12,825,000	-	-	113,000	2,629,367	16.16	11.60
Fall River,	583,248,700	557,625,100	-	-	544,599,900	525,131,000	6,134,459	5,865,494	2,398,400	30,639,841	5.25	4.39
Fitchburg,	111,570,000	103,596,000	-	-	102,805,569	96,135,104	-	-	631,000	8,235,431	7.38	7.55
Framingham,	28,374,000	27,017,000	-	-	25,712,100	23,848,100	-	-	634,000	21,128,900	5.55	9.81
Gardner,	12,000,000	-	-	-	9,469,395	8,259,000	1,436,000	1,053,000	92,900	966,705	8.06	-
Gloucester,	72,704,800	73,668,300	-	-	67,027,500	66,192,300	1,023,000	1,029,500	367,500	4,272,800	5.88	8.51
Greenfield,	24,054,900	20,524,700	-	-	21,505,300	17,875,900	-	-	972,500	1,581,400	6.57	9.98
Haverhill,	249,151,000	230,587,000	-	-	232,055,000	210,424,500	3,105,500	3,724,800	2,248,600	11,064,900	4.44	6.21
Ipswich,	3,304,500	3,283,500	-	-	3,276,500	3,235,500	-	-	30,000	11,000	.33	.31
Lawrence,	468,401,410	468,131,140	-	-	439,391,900	439,577,100	1,932,769	1,820,134	1,522,000	25,651,232	5.48	6.36
Leominster,	34,610,100	31,104,000	-	-	31,252,100	28,529,700	-	-	44,300	3,281,600	9.48	8.12
Lexington,	-	423,800	3,120,200	1,010,000	2,624,700	1,073,100	-	-	15,500	480,000	15.38	23.26
Lowell,	612,100,000	603,770,000	-	-	575,508,000	565,786,300	18,463,800	19,173,000	3,878,400	14,880,300	2.43	3.31
Lynn,	793,950,018	711,610,181	-	-	742,910,500	667,170,500	-	-	2,621,300	49,226,918	6.20	5.95
Malden,	597,950,000	506,712,000	604,200	532,800	450,224,480	390,294,170	-	-	3,790,000	14,097,820	2.36	2.03
Marlborough-Hudson,	41,556,000	34,703,000	-	-	31,541,500	28,779,700	-	-	484,900	9,559,600	23.00	15.65
Millford,	23,479,900	22,730,600	-	-	21,074,000	19,792,500	-	-	126,300	2,288,600	9.75	12.25
Natick,	17,122,000	-	-	-	13,620,200	13,596,800	1,084,900	865,901	230,900	2,173,300	12.69	-
New Bedford,	496,190,300	444,428,628	-	-	458,797,200	424,500,300	13,748,303	13,309,755	961,200	22,817,897	4.60	1.24
Newburyport,	36,361,500	35,432,900	-	-	33,896,200	32,914,600	-	-	510,800	1,953,400	5.37	5.84
Newton,	-	-	430,427,200	388,002,700	405,757,700	362,308,686	10,495,500	10,487,300	1,439,700	12,751,300	2.96	3.53
North Adams,	98,998,500	99,149,000	-	-	59,911,600	60,576,600	-	-	116,200	9,092,400	9.18	12.91

Northampton,	67,856,900	64,716,500	-	-	60,111,500	58,570,700	-	620,400	7,171,000	10.57	8.65
North Attleborough,	39,990,400	39,332,600	-	-	37,042,284	36,433,900	-	270,000	2,545,116	6.37	6.74
Norwood,	18,836,200	18,453,800	-	-	16,119,600	15,233,900	-	335,400	2,384,900	12.66	15.55
Old Colony,	8,592,300	-	-	-	6,736,500	-	-	182,600	1,567,400	18.24	-
Otis Co. (Ware),	22,204,270	22,478,734	-	-	10,536,100 ¹	10,440,100 ⁴	3,724	215,300	1,519,017	6.84	7.43
People's (Stoneham),	-	-	-	7,392,700	9,225,100	4,899,250	-	170,300	1,299,900	12.15	32.46
Pittsfield,	155,457,900	133,888,600	-	-	149,036,300	127,379,400	-	1,794,300	4,687,700	3.02	3.44
Plymouth,	15,703,000	14,073,140	-	-	13,175,100	12,707,500	-	352,600	2,156,340	13.73	8.06
Salem,	197,071,468	174,297,294	132,300	-	168,313,300	157,597,300	-	2,558,800	26,314,668	13.34	7.96
Spencer,	15,365,700	26,074,100	506,700	-	10,930,300	9,820,100	-	247,300	934,234	5.89	6.97 ¹
Springfield,	720,153,000	665,474,000	-	-	623,183,479	573,471,000	3,701,503	6,065,000	21,404,818	2.97	3.22
Suburban (Reverse),	-	-	136,404,022	115,880,771	131,822,732	112,798,870	-	57,900	4,523,390	3.32	2.59 ¹
Taunton,	144,806,000	132,752,000	-	-	126,482,100	119,920,900	-	1,424,400	16,954,500	11.71	8.60
Vineyard (Oak Bluffs),	1,812,760	1,783,760	-	-	1,608,000	1,597,700	-	- ¹	206,160	11.27	10.06
Webster,	38,856,630	34,133,196	-	-	35,993,140	31,483,320	20,200	47,000	2,795,690	7.19	7.56
Williamstown,	-	-	9,407,900	7,645,300	7,718,400	7,572,300	-	8,600	1,690,900	17.87	.63
Woburn,	17,612,000	17,585,500	-	-	15,920,300	15,236,500	-	185,500	1,531,200	8.69	11.89
Worcester County,	27,293,300	4,700,700	3,772,500	14,243,800	20,830,200	15,812,800	520,800	499,800	8,713,400	31.93	12.64
Worcester,	821,646,000	780,707,000	-	-	776,925,400	719,181,200	6,808,800	3,148,700	35,535,100	4.32	6.66
	11,593,531,273	10,824,853,713	3,649,005,422	3,400,955,071	13,165,542,946	12,300,432,448	238,516,386	67,979,000	742,105,574	-	-

Oil-gas Company.

Edison of Brockton (Stoughton),	1,030,962	1,028,137	-	-	802,616	825,480	-	2,400	227,064	22.02	19.90
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¹ No record.

² For five and one-half months.

³ Not including 9,898,900 feet used in mills of company.

⁴ Not including 10,140,900 feet used in mills of company.

Acetylene-gas Companies.

COMPANY.	Gas made. Year ending June 30, 1912.	Gas made. Year ending June 30, 1911.	Gas bought. Year ending June 30, 1912.	Gas bought. Year ending June 30, 1911.	Gas sold by Meter. Year ending June 30, 1912.	Gas sold by Meter. Year ending June 30, 1911.	Gas sold for Public Lamps. Year ending June 30, 1912.	Gas sold for Public Lamps. Year ending June 30, 1911.	Gas used at Works and Offices. Year ending June 30, 1912.	Gas unaccounted for. Year ending June 30, 1912.	Percentage unaccounted for, 1912.	Percentage unaccounted for, 1911.
	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.		
Atwood, L. S. (Chatham),	42,320	37,480	-	37,480	42,320	37,480	-	-	-	-	-	-
Barre,	- ¹	134,131	-	96,153	47,272 ²	96,153	37,978	-	-	-	-	-
Bernardston,	27,006	39,662	-	23,979	23,979	34,740	-	-	-	3,027	11.21	12.41
Cotuit,	39,883	69,183	-	35,673	35,673	66,050	3,133	-	-	-	-	-
Georgetown,	68,782	63,280	-	68,782	68,782	63,280	-	-	-	-	-	-
Gregory, J. D. (Princeton),	26,580	22,752	-	26,580	26,580	22,752	-	-	-	-	-	-
Hadley,	23,295	23,848	-	22,188	22,188	21,952	-	-	-	1,107	4.75	7.95
Hatfield,	7,780	46,580	-	7,780	46,580	46,580	-	-	-	-	-	-
Hyannis,	222,924	202,450	-	201,934	176,700	176,700	25,600	25,600	-	-	-	-
Marion,	422,900	440,755	-	270,652	293,031	293,031	151,830	146,024	-	2,118	.50	-
Northfield,	26,924 ³	50,267	-	26,924	50,005	50,005	-	-	-	-	-	.52
Sadler, T. G. (South Attleborough),	93,995	89,010	-	93,995	89,010	89,010	-	-	-	-	-	-
South Hadley,	145,720	131,170	-	90,197	73,405	73,405	55,523	57,765	-	-	-	-
Sunderland,	20,106	23,342	-	18,859	19,177	19,177	-	-	-	1,247	6.20	14.17
Vineyard Haven,	204,630	280,500	-	127,752	198,302	198,302	36,000	36,000	-	40,878	19.98	16.47
Waite & Smith (South Dartmouth),	25,128	23,645	-	25,086	23,606	23,606	-	-	-	42	.17	1.65
	-	-	-	1,129,973	1,312,223	268,553	306,500	-	-	-	-	-

¹ No record.

² For seven months.

³ For six and one-half months.

TABLE 3. — Showing Amount of Gas sold by Companies to Each Other for the Years ending June 30, 1911 and 1912.

SOLD BY —		SOLD TO —		Number of Feet, 1911.	Number of Feet, 1912.	Amount paid, 1912.
Arlington,	.	Lexington,	.	1,010,000	3,120,200	\$2,813 14
Beverly,	.	Danvers,	.	8,253,400	2,727,200	2,318 12
	.	Charlestown,	.	1,153,000	537,000	255 10
	.	Citizens' (Quincy),	.	67,906,000	83,453,000	37,553 85
Boston, .	.	Dedham,	.	59,549,500	64,301,800	25,324 32
	.	East Boston,	.	221,223,000	200,280,000	80,112 00
	.	Everett,	.	2,363,800	2,104,400	1,052 20
	.	Newton,	.	388,002,700	430,427,200	176,475 17
	.	Malden,	.	532,800	604,200	513 57
Cambridge,	.	Boston, .	.	88,600	83,700	41 85
Dedham,	.	Suburban (Revere),	.	13,465,971	12,459,122	6,229 55
East Boston,	.	Salem,	.	—	132,300	79 38
Lynn, .	.	Suburban (Revere),	.	102,414,800	123,944,900	49,577 97
Malden,	.	People's (Stoneham),	.	—	6,651,000	4,323 19
N. E. Gas & Coke Co.,	.	Boston, .	.	2,424,973,000	2,612,314,000	743,212 88
	.	Adams, .	.	17,933,500	20,412,300	11,751 56
North Adams,	.	Williamstown,	.	7,645,300	9,407,900	5,420 84
Spencer,	.	Worcester County,	.	14,243,800	3,772,466	3,207 57
Springfield,	.	Chicopee,	.	62,235,200	66,138,200	26,455 28
Woonsocket,	.	Blackstone,	.	3,023,800	3,699,600	2,589 72
Worcester County,	.	Spencer,	.	—	508,700	432 41
Town of Wakefield,	.	People's (Stoneham),	.	7,292,700	4,044,300	4,257 24

TABLE 4.

The following table shows the daily capacity of the several works June 30, 1912, and the greatest and least day's output during the year ending with that date, for each of the companies: —

COMPANY.	Daily Capacity of Works.	Greatest Output.	Date.	Least Output.	Date.
	Feet. — ¹	Feet. — ²		Feet. — ²	
Adams,	— ¹	— ²	—	— ²	—
Amesbury,	100,000	84,000	June 25	19,500	Sept. 15
Amherst,	150,000	42,040	June 15	11,445	Sept. 1
Arlington,	150,000	209,225	Jan. 6	111,880	Oct. 22
Athol,	75,000	57,370	Nov. 3	12,256	Sept. 3
Attleboro,	300,000	230,000	Jan. 9	80,000	July 2
Barre,	— ²	— ²	—	— ²	—
Bernardston,	— ²	— ²	—	— ²	—
Beverly,	300,000	288,600	Dec. 13	122,900	July 4
Blackstone,	— ¹	— ²	—	— ²	—
Boston,	31,000,000	19,963,000	Jan. 6	6,459,000	July 4
Brockton,	1,500,000	957,000	Dec. 23	503,600	Apr. 21
Cambridge,	7,000,000	3,343,000	Jan. 6	1,130,000	July 4
Charlestown,	1,620,000	1,222,000	Jan. 12	484,000	July 4
Chicopee,	640,000	227,800	June 30	124,400	July 5
Citizens' (Nantucket),	35,000	28,990	Aug. 30	5,230	Mar. 30
Citizens' (Quincy),	— ¹	316,000	Aug. 29	149,000	Apr. 5
Clinton,	285,000	97,000	Dec. 21	25,300	May 27
Cotuit,	200	— ²	—	— ²	—
Danvers,	20,000	— ²	—	— ²	—
Dedham,	— ¹	252,900	Dec. 16	118,000	July 4
East Boston,	1,200,000	1,481,000	Dec. 23	627,000	July 7
Easthampton,	60,000	69,363	Nov. 29	24,552	Mar. 31
Edison (Brockton),	10,000	5,772	Feb. 6	1,117	Oct. 29
Fall River,	4,000,000	2,184,000	Dec. 23	1,081,400	July 5
Fitchburg,	1,270,000	441,000	Aug. 12	200,000	Mar. 17
Framingham,	150,000	101,000	Sept. 12	47,000	May 19
Gardner,	50,000	— ²	—	— ²	—
Georgetown,	500	— ²	—	— ²	—
Gloucester,	725,000	330,100	Mar. 9	83,900	June 3
Greenfield,	288,000	96,500	Sept. 23	40,100	Mar. 17
Hadley,	— ²	90	Feb. — ²	40	Aug. — ²
Hatfield,	500	— ²	—	— ²	—
Haverhill,	2,000,000	956,000	Jan. 9	330,000	July 4
Hyannis,	1,200	— ²	—	— ²	—
Ipswich,	288,000	21,000	Dec. 24	4,000	July 3
Lawrence,	4,812,000	1,662,613	Dec. 23	852,766	July 9
Leominster,	300,000	164,820	Jan. 13	62,910	Apr. 11
Lexington,	— ¹	— ²	—	— ²	—
Lowell,	3,000,000	2,388,000	Dec. 23	788,000	July 4
Lynn,	6,000,000	2,832,319	Jan. 9	1,126,704	July 4
Malden,	3,500,000	2,173,000	Jan. 6	1,183,000	July 10
Marion,	2,000	— ²	—	— ²	—
Marlborough-Hudson,	200,000	174,000	June 25	76,000	Oct. 8
Milford,	150,000	87,000	Dec. 14	31,417	July 2

¹ No generating plant.² No record.

TABLE 4 — *Concluded.*

COMPANY.	Daily Capacity of Works.	Greatest Output.	Date.	Least Output.	Date.
	Feet.	Feet.		Feet.	
Natick, . . .	125,000	72,400	Jan. 6	24,700	May 12
New Bedford, . . .	3,870,000	2,026,100	Dec. 23	896,200	July 16
Newburyport, . . .	200,000	142,900	Dec. 23	60,100	Apr. 28
Newton, . . .	1,600,000	1,697,000	Jan. 13	645,000	July 4
North Adams, . . .	825,000	371,907	June 25	110,285	Nov. 25
Northampton, . . .	450,000	285,082	Dec. 28	65,484	Sept. 4
North Attleborough, . . .	215,000	139,900	Jan. 17	68,900	Apr. 21
Northfield, . . .	6,000	— ¹	—	— ¹	—
Norwood, . . .	150,000	101,200	Dec. 11	24,000	July 28
Old Colony, . . .	400,000	103,500	June 30	1,000	Dec. 19
Otis Co. (Ware), . . .	150,000	96,112	Jan. 18	19,261	June 19
People's (Stoneham), . . .	— ²	44,100	June 24	17,047	Oct. 3
Pittsfield, . . .	950,000	524,200	Dec. 23	305,300	Mar. 17
Plymouth, . . .	80,000	55,200	June 24	31,000	Mar. 31
Sadler, T. G. (South At- tleborough), . . .	— ¹	— ¹	—	— ¹	—
Salem, . . .	1,700,000	682,800	Dec. 23	290,700	July 4
South Hadley, . . .	— ¹	750	Oct. 6	170	June 29
Spencer, . . .	150,000	137,080	July 18	12,922	July 4
Springfield, . . .	5,000,000	2,480,000	June 6	1,119,000	July 4
Suburban (Revere), . . .	— ²	586,692	Aug. 2	234,967	Apr. 5
Sunderland, . . .	4,000	— ¹	—	— ¹	—
Taunton, . . .	700,000	570,000	Jan. 9	230,000	July 9
Vineyard Haven, . . .	1,500	— ¹	—	— ¹	—
Vineyard (Oak Bluffs), . . .	150,000	26,700	Aug. 15	3,400	Mar. 2
Webster, . . .	315,000	144,040	Dec. 23	70,800	Feb. 5
Williamstown, . . .	— ²	— ¹	—	— ¹	—
Woburn, . . .	80,000	80,000	Dec. 25	45,000	June 25
Worcester County, . . .	150,000	128,444	Jan. 26	16,702	Sept. 27
Worcester, . . .	5,200,000	3,006,000	Dec. 23	1,209,000	July 4

¹ No record.² No generating plant.

TABLE 5.

The following table shows the total quantity of gas sold during the year ending June 30, 1912, the percentage of increase in sales over the previous year; the capital (including bonds) per thousand feet sold, omitting those companies which have electric light plants; the average price received for all gas sold during the year ending June 30, 1912, and the average price the year previous: —

Coal and Water-gas Companies.

COMPANY.	Total Sales of Gas.	Increase over 1910-11.	Capital per M sold, including Bonds.	Average Price received per M sold, 1911-12.	Average Price received per M sold, 1910-11.
	Feet.	Per Cent.			
Adams,	18,426,500	14.95	—	\$1.04	\$1.14
Amesbury,	14,345,300	11.20	\$10.58	1.60	1.63
Amherst,	3,280,108	75.04	—	1.45	1.72
Arlington,	53,140,200 ¹	30.95	6.91	1.26	1.28
Athol,	9,979,000	3.40	—	1.54	1.55
Attleboro,	57,326,278	8.34	1.01	1.11	1.20
Beverly,	68,248,100 ²	9.67	—	1.15	1.13
Blackstone,	3,699,600	22.35	—	1.28	1.29
Boston,	5,561,426,949 ³	5.31	3.10	.743	.744
Brockton,	216,573,700	2.55	4.84	1.11	1.11
Cambridge,	762,630,447 ⁴	6.36	1.89	.856	.854
Charlestown,	266,869,289	4.54	—	.856	.867
Chicopee,	55,929,900	3.50	5.84	1.23	1.19
Citizens' (Nantucket),	4,491,500	.53	—	2.06	2.07
Citizens' (Quincy),	75,334,018	23.15	9.07	1.34	1.43
Clinton,	19,449,100	.18	—	1.50	1.53
Danvers,	2,721,800 ⁵	—	—	—	1.62
Dedham,	58,319,800 ⁶	6.08	3.80	1.04	1.04
East Boston,	375,193,628 ⁷	10.49	1.65	.821	.861
Easthampton,	13,529,800	5.50	—	1.61	1.61
Fall River,	550,734,359	3.72	1.62	.813	.845
Fitchburg,	102,805,569	8.06	—	1.14	1.14
Framingham,	25,712,100	7.82	7.39	1.53	1.51
Gardner,	10,905,395	17.11	12.17	2.00	2.09
Gloucester,	68,050,500	1.23	3.21	1.10	1.10
Greenfield,	21,505,300	20.30	12.28	1.55	1.59
Haverhill,	235,160,500	9.81	1.55	.888	.931
Ipswich,	3,276,500	1.27	9.40	1.90	1.92
Lawrence,	441,324,669	.02 ⁸	—	.908	.905
Leominster,	31,252,100	9.54	6.75	1.41	1.48
Lexington,	2,624,700	144.59	15.24	1.59	2.15
Lowell,	593,971,800	1.54	2.06	.890	.927
Lynn,	743,042,800 ⁹	11.37	—	.729	.78
Malden,	580,820,380 ¹⁰	17.88	3.49	.791	.864
Marlborough-Hudson,	31,541,500	9.60	9.54	1.52	1.50
Milford,	21,074,000	6.47	5.07	1.44	1.40
Natick,	14,705,100	1.68	6.13	1.57	1.56
New Bedford,	472,545,503	7.93	—	.857	.857
Newburyport,	33,896,300	2.98	—	1.39	1.39
Newton,	416,253,200	11.66	1.83	.892	.94
North Adams,	89,731,800 ¹¹	4.15	—	.842	.882
Northampton,	60,111,500	2.63	2.84	1.17	1.24

¹ Includes 3,120,200 feet sold to other companies.

² Includes 2,727,200 feet sold to other companies.

³ Includes 781,103,400 feet sold to other companies.

⁴ Includes 604,200 feet sold to other companies.

⁵ Three months only.

⁶ Includes 83,700 feet sold to other companies.

⁷ Includes 12,459,122 feet sold to other companies.

⁸ Decrease.

⁹ Includes 132,300 feet sold to other companies.

¹⁰ Includes 130,595,900 feet sold to other companies.

¹¹ Includes 29,820,200 feet sold to other companies.

Coal and Water-gas Companies — Concluded.

COMPANY.	Total Sales of Gas.	Increase over 1910-11.	Capital per M sold, including Bonds.	Average Price received per M sold, 1911-12.	Average Price received per M sold, 1910-11.
	Feet.	Per Cent.			
North Attleborough, .	37,133,884	1.92	\$1.83	\$1.20	\$1.30
Norwood,	16,119,600	5.81	4.71	1.57	1.57
Old Colony, . . .	6,736,500	—	91.15	1.28	—
Otis Co. (Ware), .	10,539,824	.90	—	1.33	1.31
People's (Stoneham), .	9,225,100	88.30	7.05	1.51	1.79
Pittsfield,	149,036,300	17.00	2.96	1.06	1.14
Plymouth,	13,175,100	3.68	3.95	1.76	1.79
Salem,	168,313,300	6.80	3.66	1.03	1.11
Spencer,	14,702,766 ¹	38.94 ²	—	1.35	1.13
Springfield, . . .	693,023,182 ³	8.48	2.31	.805	.828
Surburban (Revere), .	131,822,732	16.87	—	.980	1.00
Taunton,	126,482,100	5.47	1.90	.985	.987
Vineyard (Oak Bluffs),	1,608,000	.31 ²	—	2.96	2.92
Webster,	36,013,340	14.32	—	1.25	1.36
Williamstown, . . .	7,718,400	1.93	—	1.07	1.15
Woburn,	15,920,300	4.49	2.83	1.37	1.40
Worcester County, .	21,859,700 ⁴	33.81	16.83	1.58	1.65
Worcester,	783,734,200	7.96	1.78	.781	.806
	14,435,124,920	—	—	—	—

Oil-gas Company.

Edison of Brockton (Stoughton), . . .	802,616	2.77	—	\$4.61	\$4.73
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Acetylene-gas Companies.

Atwood, L. S. (Chat- ham),	42,320	12.91	—	\$15.00	\$15.00
Barre,	47,272	—	—	—	15.91
Bernardston, . . .	23,979	30.98 ²	\$108.43	14.86	14.82
Cotuit,	39,883	42.35 ²	61.73	16.23	15.61
Georgetown, . . .	68,782	8.69	109.04	15.00	15.00
Gregory, J. D. (Prince- ton),	26,580	16.82	—	15.00	15.00
Hadley,	22,188	1.08	87.88	15.00	14.86
Hatfield,	7,780	83.30 ²	919.02	15.00	14.90
Hyannis,	222,924	10.19	28.13	15.92	16.80
Marion,	422,482	1.50 ²	—	15.55	15.44
Northfield,	26,924	—	—	—	15.00
Sadler, Thos. G. (South Attleborough), . .	93,995	5.60	—	12.73	12.67
South Hadley, . . .	145,720	11.09	34.21	11.35	13.50
Sunderland,	18,859	1.66 ²	63.63	15.00	15.00
Vineyard Haven, . .	163,752	30.11 ²	61.07	14.69	12.57
Waite & Smith (South Dartmouth), . . .	25,086	6.27	—	20.00	20.00
	1,398,526	—	—	—	—

¹ Includes 3,772,466 feet sold to other companies.² Decrease.³ Includes 66,138,200 feet sold to other companies.⁴ Includes 508,700 feet sold to other companies.

TABLE 6.

The following tables show the capital (including bonds), the gas sold, the gas unaccounted for, and the number of consumers per mile of main; also the gas sold per consumer. Where capital is employed for both gas and electric light the amount per mile of main is omitted.

Coal and Water-gas Companies.

COMPANY.	PER MILE OF MAIN.				Gas sold per Consumer.
	Capital.	Gas sold.	Gas un- accounted for.	Number of Con- sumers.	
		Feet.	Feet.		Feet.
Adams,	—	1,171,824	116,168	80.7	14,520
Amesbury,	\$3,913 71	369,851	81,015	32.5	11,376
Amherst,	—	183,508	50,907	15.6	11,757
Arlington,	6,148 00	889,723	39,563	51.5	16,261
Athol,	—	1,145,274	99,005	63.4	18,078
Attleboro,	2,762 68	2,730,586	181,256	131.6	20,755
Beverly,	—	1,226,394	138,956	77.4	15,220
Blackstone,	—	1,237,577	—	83.0	14,918
Boston,	18,561 40	5,993,727	213,086	154.1	32,431
Brockton,	6,440 63	1,330,297	186,784	79.9	16,644
Cambridge,	8,877 21	4,696,844	199,687	186.5	25,012
Charlestown,	—	4,490,444	529,133	181.1	24,236
Chicopee,	6,135 84	1,051,078	173,903	78.2	13,438
Citizen's (Nantucket),	—	2,109,884	129,139	190.7	11,018
Citizen's (Quincy),	7,407 78	817,068	83,989	60.7	12,845
Clinton,	—	1,140,646	107,528	62.9	18,143
Dedham,	5,064 78	1,332,026	133,991	62.1	21,346
East Boston,	8,453 80	5,115,827	158,383	212.3	22,479
Easthampton,	—	1,090,763	211,978	90.3	12,080
Fall River,	6,783 46	4,210,001	234,221	173.7	23,968
Fitchburg,	—	1,739,736	139,365	100.5	17,304
Framingham,	10,116 88	1,369,086	113,357	79.8	17,153
Gardner,	7,778 76	639,265	56,667	42.2	13,152
Gloucester,	6,175 29	1,923,257	120,759	84.7	22,357
Greenfield,	9,438 40	768,847	56,537	58.3	13,177
Haverhill,	4,943 03	3,197,814	150,465	124.0	25,446
Ipswich,	6,279 41	668,003	2,243	52.0	12,849
Lawrence,	—	2,640,180	153,456	122.2	21,507
Leominster,	6,939 06	1,027,774	107,920	69.2	14,847
Lexington,	5,042 14	330,852	60,506	26.3	12,558
Lowell,	6,951 52	3,370,618	84,444	124.2	26,301
Lynn,	—	4,208,496	278,815	156.2	26,931
Malden,	10,953 11	3,135,432	76,104	120.6	20,160
Marlborough-Hudson,	4,652 96	487,579	147,775	47.6	10,241
Milford,	7,828 35	1,543,262	167,596	79.7	19,369
Natick,	6,563 30	1,071,188	158,313	76.6	12,947
New Bedford,	—	3,953,610	190,908	148.1	25,912
Newburyport,	—	1,224,533	70,568	77.8	15,736
Newton,	3,753 45	2,049,029	62,769	69.6	28,682
North Adams,	—	2,776,837	281,373	101.5	18,271

Coal and Water-gas Companies — Concluded.

COMPANY.	PER MILE OF MAIN.				Gas sold per Consumer.
	Capital.	Gas sold.	Gas un- accounted for.	Number of Con- sumers.	
		Feet.	Feet.		Feet.
Northampton,	\$4,289 95	1,508,043	179,902	74.3	20,294
North Attleborough,	3,373 69	1,839,622	126,086	74.0	24,794
Norwood,	3,793 75	804,654	119,049	53.8	14,967
Old Colony,	1,065 97	116,952	27,211	20.8	5,105
Otis Co. (Ware),	—	1,462,057	210,714	87.5	16,697
People's (Stoneham),	3,998 55	567,492	79,964	46.4	12,234
Pittsfield,	6,615 45	2,235,698	70,320	109.2	20,466
Plymouth,	4,402 68	1,115,494	182,570	89.5	12,464
Salem,	8,265 11	2,257,958	353,017	145.7	15,493
Spencer,	—	1,096,075	69,646	56.6	14,401
Springfield,	8,428 64	3,645,081	112,583	133.5	24,557
Suburban (Revere),	—	2,132,472	73,174	124.0	17,198
Taunton,	3,134 73	1,652,028	221,449	71.2	23,216
Vineyard (Oak Bluffs),	—	672,281	86,192	130.0	5,170
Webster,	—	1,431,457	111,123	120.0	11,918
Williamstown,	—	627,609	136,679	31.8	19,740
Woburn,	3,681 63	1,299,616	124,996	65.5	19,851
Worcester County,	4,700 93	279,317	111,337	19.0	13,999
Worcester,	7,835 73	4,399,088	199,458	141.0	30,929

Oil-gas Company.

Edison of Brockton (Stoughton),	—	147,922	41,848	37.4	3,954
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Acetylene-gas Companies.

Atwood, L. S. (Chatham),	—	223,454	— ¹	100.3	2,227
Bernardston,	\$2,308 78	21,293	2,688	20.4	1,043
Cotuit,	3,319 72	53,775	—	32.4	1,486
Georgetown,	3,044 28	27,919	—	20.7	1,349
Gregory, J. D. (Princeton),	—	61,581	—	25.5	2,416
Hadley,	4,868 06	55,391	2,764	27.5	2,017
Hatfield,	2,097 34	2,282	—	10.0	229
Hyannis,	2,925 37	103,997	—	31.3	3,013
Marion,	—	34,348	172	8.9	2,483
Sadler, T. G. (South At- tleborough),	—	124,074	—	39.6	3,133
South Hadley,	2,435 65	70,985	—	14.1	3,110
Sunderland,	977 78	15,367	1,016	9.8	1,572
Vineyard Haven,	3,226 80	52,389	13,190	23.6	1,750
Waite & Smith (South Dartmouth),	—	101,893	171	121.9	836

¹ No record.

TABLE 7.

The following table shows the number of tons of coal carbonized in each of the two years to June 30, 1912, with the kind and quantities of enricher used by the various companies in making gas from coal, and the percentage of cost of coal received from residuals in the year ending June 30, 1912: —

COMPANY.	Number of Tons of Coal carbon- ized, Year ending June 30, 1912.	Number of Tons of Coal carbon- ized, Year ending June 30, 1911.	ENRICHERS USED.	QUANTITY USED.		Percentage of Cost of Coal re- ceived from Residual Products.
				Tons.	Gallons.	
Attleboro,	5,639	5,105	Benzol,	—	11,956	44.71
Beverly,	7,572	6,386	Benzol,	—	10,059	51.02
Brockton,	1,937 ¹	6,903 ⁴ ₁₆	—	—	— ³	11.07
Cambridge,	47,267 ¹	42,873 ¹	—	—	— ³	41.98
Charlestown,	25,524	24,246 ¹ ₄	—	—	— ³	63.06
Citizens' (Nantucket),	707	677	—	—	— ³	10.93
East Boston,	7,420 ¹ ₄	7,466 ¹ ₅	—	—	— ³	37.01
Easthampton,	1,509	1,313	Cannel and gas oil,	15	2,832	33.71
Fitchburg,	3,036 ¹ ₆	4,231 ¹ ₄	—	—	5,257	27.38
Framingham,	2,022 ¹ ₄	2,485 ¹ ₄	Benzol,	—	1,627	42.45
Gloucester,	382 ¹	6,269	Benzol,	—	449	20.62
Lawrence,	23,473 ¹ ₄	22,028 ¹ ₄	—	—	— ³	32.52
Lowell,	33,918 ¹ ₄	34,313 ¹ ₄	—	—	— ³	46.15
Lynn,	28,518 ¹	28,853	Benzol,	—	4,921	35.33
Malden,	21,534 ¹ ₄	17,893 ¹ ₄	—	—	— ³	28.21
Marlborough-Hudson,	4,267 ¹ ₄	3,181	—	—	—	26.47
Millford,	2,325	2,500	Benzol,	—	2,827	35.95

Natick,	1,887 ¹ ₁₀	1,966 ¹ ₁	Cannel,	23 ¹ ₄	— ²	32.60
New Bedford,	18,358 ¹ ₁₀	18,213 ¹ ₁₀	—	—	— ²	29.98
Newburyport,	3,339 ¹ ₁₀	3,206 ¹ ₁₀	Benzol,	—	6,679	58.11
North Adams,	771 ¹ ₁	10,297	Benzol,	—	664	—
Northampton,	2,816 ¹ ₁₀	3,165	Benzol,	—	1,454	14.68
North Attleborough,	3,770	3,726	Cannel and benzol,	15	6,119	41.97
Norwood,	1,753	1,719 ¹ ₁	Cannel and benzol,	4	477	37.63
Otis Co. (Ware),	2,341	2,222	Cannel and benzol,	18	1,115	37.01
Pittsfield,	4,482 ¹ ₁	5,079 ¹ ₁	—	—	313	—
Plymouth,	1,426	1,296	Benzol,	—	1,278	36.54
Salem,	8,746 ¹ ₁₀	15,802 ¹ ₁₀	—	—	— ²	48.46
Springfield,	27,023	24,957 ¹ ₁	Benzol,	—	3,054	38.94
Taunton,	12,830	12,174	Benzol,	—	2,871	44.57
Woburn,	1,700	1,720	Cannel,	88	—	35.47
Worcester,	35,277 ¹ ₁₀	35,749 ¹ ₁	—	—	— ²	30.72

¹ Not including coal for water gas.
² Used only in water-gas apparatus and included in quantities given on pages 236 a and 237 a.
³ No enricher used.
⁴ Also 1,779⁷₁₀ tons coke.
⁵ Also 1,759¹₁₀ tons coke.

TABLE 8 — *Water Gas.*

The following table shows the materials and quantity of each used in the manufacture of water gas, also the process used and the quantity of gas made: —

COMPANY.	Process used.	Materials used in Generator.	Quantity used.	Materials used for making Steam.	Quantity used.	Enricher used.	Quantity used.	Water Gas made.
Amesbury, .	Improved Lowe-Granger, .	Coke, .	370.0 tons,	Bituminous, .	341.0 tons,	Naphtha, .	Gallons. 90,813	Fest. 17,887,600
Amherst, .	Lowe, .	Anthracite, .	116.0 "	Bituminous, .	144.0 "	Gas oil, .	18,156	4,213,841
Arlington, .	Improved Lowe, .	Anthracite, .	155.0 "	Bituminous, .	245.6 "	Gas oil, .	212,655	56,061,200
Athol, .	Lowe-Granger, .	Anthracite, .	1,327.3 "	— 1	—	Gas oil, .	47,759	11,106,450
Boston, .	Improved Lowe, .	Coke, .	267.0 "	Coal, .	1,840.8 "	Gas oil, .	12,368,409	3,158,682,000
	Jerzmanowski, .		58,730.4 "	Coke, .	7,945.0 "			
				Tar, .	1,167,134.0 gals.,			
Brockton, .	Improved Lowe, .	Anthracite, .	2,827.2 "	Bituminous, .	1,561.0 tons,	Gas oil, .	903,223	229,332,800
Cambridge, .	Lowe, .	Coke, .	3,774.5 "	— 1	—	Benzol, .	300	211,810,000
Clinton, .	Improved Lowe, .	Anthracite, .	478.0 "	Bituminous, .	183.0 "	Gas oil, .	906,759	21,366,000
East Boston, .	Improved Lowe, .	Coke, .	2,085.5 "	Coke, .	831.0 "	Gas oil, .	85,340	107,851,000
				Tar, .	136,945.0 gals.,		423,737	
Fall River, .	Lowe, .	Coke, .	223.0 "	Bituminous, .	1,994.0 tons,	Gas oil, .	2,253,988	583,248,700
		Anthracite, .	7,266.0 "	Screenings, .	580.0 "			
Fitchburg, .	Lowe, .	Anthracite, .	973.9 "	Tar, .	61,572.0 gals.,	Gas oil, .	307,121	76,734,000
		Coke, .	348.6 "	— 1	—	Benzol, .	1,285	12,000,000
Gardner, .	Lowe, .	Anthracite, .	327.0 "	Bituminous, .	108.0 tons,	Gas oil, .	61,771	69,018,000
Gloucester, .	Improved Lowe, .	Anthracite, .	648.0 "	Bituminous, .	248.0 "	Gas oil, .	270,557	24,054,900
		Coke, .	576.0 "	Bituminous, .	207.0 "		94,331	
Greenfield, .	Improved Lowe, .	Anthracite, .	563.0 "	Screenings, .	167.8 "	Gas oil, .		
				Anthracite, .	55.6 "			
Haverhill, .	Lowe, .	Anthracite, .	2,816.6 "	Bituminous, .	793.4 "	Gas oil, .	866,546	249,151,000
		Coke, .	697.9 "	Coke, .	42.9 "			
				Fuel oil, .	4,008.0 gals.,			

Ipewich, . . .	Kendall, . . .	Naphtha, . . .	39,578.0 gals.,	Bituminous, . . .	34.7 tons,	Gas oil, . . .	3,304,500
Lawrence, . . .	Improved Lowe, . . .	Coke, . . .	3,199.0 tons,	Coke, . . .	875.0 "	758,418	196,124,210
Leominster, . . .	Improved Lowe, . . .	Anthracite, . . .	689.6 "	Bituminous, . . .	240.0 "	148,813	34,616,100
Lowell, . . .	Improved Lowe, . . .	—	—	Coke, . . .	4,616.2 "	997,970	232,622,000
Lynn, . . .	Improved Lowe, . . .	Coke, . . .	10,978.0 "	Tar, . . .	150,956.0 gals.,	Gas oil, . . .	467,443,190
Malden, . . .	Lowe, . . .	Coke, . . .	5,204.3 "	Bituminous, . . .	240.0 tons,	Gas oil, . . .	364,380,000
New Bedford, . . .	Improved Lowe, . . .	Anthracite, . . .	2,120.8 "	Coke, . . .	1,264.0 "	Gas oil, . . .	306,182,000
North Adams, . . .	Improved Lowe, . . .	Coke, . . .	1,273.0 "	Tar, . . .	194,994.0 gals.,	Gas oil, . . .	91,329,200
Northampton, . . .	Improved Lowe, . . .	Coke, . . .	153.0 "	Coke, . . .	1,779.9 tons,	Gas oil, . . .	39,100,800
Old Colony, . . .	Improved Lowe, . . .	Coke, . . .	697.0 "	Breeze, . . .	2,715.9 "	Benzol, . . .	8,592,300
Pittsfield, . . .	Lowe, . . .	Anthracite, . . .	361.8 "	Bituminous, . . .	350.5 "	Gas oil, . . .	103,929,600
Salem, . . .	Lowe, . . .	Coke, . . .	194.7 "	Coke, . . .	1,207.2 "	Gas oil, . . .	107,336,266
Spencer, . . .	Improved Lowe, . . .	Coke, . . .	1,994.1 "	Bituminous, . . .	254.0 "	Gas oil, . . .	15,365,700
Springfield, . . .	Improved Lowe, . . .	Anthracite, . . .	2,028.2 "	Coke, . . .	4,216.0 "	Gas oil, . . .	412,052,000
Vineyard (Oak Bluffs), . . .	Improved Lowe, . . .	Coke, . . .	6,056.0 "	Bituminous, . . .	—	Gas oil, . . .	1,812,760
Webster, . . .	Lowe, . . .	Anthracite, . . .	192.0 "	Coke, . . .	523.0 "	Gas oil, . . .	38,856,630
Worcester County, . . .	Western Gas Construction, . . .	Anthracite, . . .	878.0 "	Bituminous, . . .	499.0 "	Gas oil, . . .	27,293,300
Worcester, . . .	Lowe, . . .	Coke, . . .	601.0 "	Bituminous, . . .	5,776.4 "	Gas oil, . . .	346,384,000
			4,205.4 "	Bituminous, . . .			

1 Steam from electric department.

2 Twenty tons anthracite under carburetting retorts.

TABLE 9. — Oil Gas.

This table shows the materials and quantity of each used in the production of oil gas.

COMPANY.	Materials used.	Quantity used (Gallons).	Fuel used.	Quantity used.
Edison of Brockton (Stoughton), .	Gas oil, .	18,233	Bituminous, .	1,030,962

TABLE 10.

The following table shows the quantity of carbide used by each of the acetylene-gas companies for the year ending June 30, 1912: —

COMPANY.	Quantity used (Pounds).	COMPANY.	Quantity used (Pounds).
Atwood, L. S. (Chatham), .	10,100	Marion,	104,600
Barre,	25,719 ¹	Northfield,	6,240 ²
Bernardston,	6,750	Sadler, T. G. (South At-	
Cotuit,	4,850	tleborough),	26,500
Georgetown,	18,000	South Hadley,	36,250
Gregory, J. D. (Princeton),	6,800	Sunderland,	5,800
Hadley,	5,800	Vineyard Haven,	50,200
Hatfield,	7,750	Waite & Smith (South	
Hyannis,	83,050	Dartmouth),	7,300

¹ For seven months.

² For six and one-half months.

TABLE 11. — *Street Mains.*

During the year sixty-two companies laid about three hundred and twenty-five miles of mains, varying in the several cases from one hundred feet to about fifty-seven and one-half miles.
The following table shows the lengths and sizes of the mains in use as returned by the companies: —

COMPANY.	DIAMETER IN INCHES.														Total Length in Feet.	LENGTH IN MILES AND FEET.		In-crease during Year (Feet).			
	1½ and Under.	2	2½	3	4	6	8	10	12	14	16	18	20	24		30	36		42		
Adams,	17,875	14,081	-	8,439	32,647	9,586	398	-	-	-	-	-	-	-	-	-	-	83,026	15	3,826	2,491
Amesbury,	84,278	25,703	-	64,928	22,079	4,431	500	2,660	215	-	-	-	-	-	-	-	-	204,794	38	4,154	3,969
Amherst,	8,472	15,663	-	45,760	14,106	5,214	5,162	-	-	-	-	-	-	-	-	-	-	94,377	17	4,617	37,572
Arlington,	8,214	25,982	-	86,327	110,169	48,414	30,945	5,306	-	-	-	-	-	-	-	-	-	315,357	59	3,837	42,574
Athol,	3,783	14,103	-	5,876	9,588	8,510	2,656	1,490	-	-	-	-	-	-	-	-	-	46,006	8	3,766	8,242
Attleboro,	1,454	890	200	16,555	47,370	41,799	1,876	486	229	-	-	-	-	-	-	-	-	110,849	20	5,249	6,283
Atwood, L. S. (Chat-ham),	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,000	-	1,000	300
Barnardston,	2,846	3,100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,946	1	666	-
Beverly,	4,883	28,773	-	23,588	152,802	53,754	30,029	-	-	-	-	-	-	-	-	-	-	293,829	55	3,429	107,965
Blackstone,	-	1,676	-	2,435	3,790	7,883	-	-	-	-	-	-	-	-	-	-	-	15,784	2	5,224	1,117
Boston,	71,562	84,569	3,882	842,228	1,453,401	1,390,694	261,393	61,996	326,777	924	31,320	24,350	80,468	92,320	85,642	73,077	12,997	14,899,179	927	4,619	58,027
Brockton,	239,552	69,961	-	101,911	167,154	125,685	129,996	100	19,830	-	-	-	5,400	-	-	-	-	859,589	162	4,229	227,687
Cambridge,	6,855	10,915	33	252,692	246,833	149,889	37,027	3,334	85,657	-	27,590	-	8,462	24,589	2,397	1,045	-	857,318	162	1,958	20,961
Charlestown,	1,178	12,936	-	140,110	81,615	32,830	15,748	7,519	18,396	301	15	-	10	3,135	-	-	-	313,793	59	2,273	2,099
Chicopee,	20,593	49,127	11,324	65,702	87,336	32,078	4,797	6,562	3,440	-	-	-	-	-	-	-	-	280,959	53	1,119	25,948
Citizens' (Nantucket),	-	7,680	-	2,640	420	500	-	-	-	-	-	-	-	-	-	-	-	11,240	2	680	323
Citizens' (Quincy),	11,405	29,882	-	23,916	203,727	116,153	36,038	-	64,636	-	-	-	1,061	-	-	-	-	486,818	92	1,058	51,619
Clinton,	13,603	12,925	16	24,623	32,858	2,386	1,640	88	420	534	-	-	-	-	-	-	-	90,029	17	269	6,526
Cotuit,	3,916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,916	-	3,916	1,735
Dedham,	5,053	38,415	-	47,683	76,080	36,613	1,607	22,880	2,842	-	-	-	-	-	-	-	-	231,173	43	4,133	18,965
East Boston,	4,768	8,580	238	70,718	152,879	74,429	35,247	17,451	21,284	-	931	-	709	-	-	-	-	387,234	73	1,794	12,863
Easthampton,	-	19,917	-	25,120	17,236	2,520	700	-	-	-	-	-	-	-	-	-	-	65,493	12	2,133	2,240
Edison of Brockton (Stoughton),	9,204	14,445	1,500	2,500	1,000	-	-	-	-	-	-	-	-	-	-	-	-	28,649	5	2,249	886

¹ Includes 642 feet of forty-eight inch main and 941 feet of fifty-four inch main.

² Includes 936 feet of five-inch main.

TABLE 11. — Street Mains — Concluded.

COMPANY.	DIAMETER IN INCHES.																Total Length in Feet.	LENGTH IN MILES AND FEET.		In-crease during Year (Feet).	
	1½ and Under.	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36		42			
Fall River,	17,202	60,908	457	37,550	317,537	129,826	64,880	5,305	28,897	-	-	-	-	-	1,475	6,022	-	690,707	120	4,307	53,305
Fitchburg,	5,210	15,825	-	50,910	187,160	32,275	12,694	2,000	1,690	-	-	-	-	-	3,392	-	-	312,009	59	489	13,434
Frammingham,	4,446	36,753	593	2,093	39,886	10,922	2,548	1,920	-	-	-	-	-	-	-	-	-	99,161	18	4,121	9,250
Gardner,	2,168	32,638	-	17,905	16,176	18,629	1,648	825	84	-	-	-	-	-	-	-	-	90,073	17	313	10,452
Georgetown,	2,600	7,830	2,038	540	-	-	-	-	-	-	-	-	-	-	-	-	-	13,008	2	2,448	-
Gloucester,	2,860	13,071	466	20,089	67,717	60,035	11,872	1,610	8,072	30	-	-	-	-	-	-	-	186,822	35	2,022	9,309
Greenfield,	7,522	21,115	-	45,766	63,535	6,793	771	2,184	-	-	-	-	-	-	-	-	-	147,686	27	5,126	7,130
Gregory, J. D. (Prince- ton),	2,279	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,279	-	2,279	-
Hadley,	200	1,915	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,115	-	2,115	-
Hatfield,	1,800	15,600	500	100	-	-	-	-	-	-	-	-	-	-	-	-	-	18,000	3	2,160	-
Haverhill,	13,271	31,744	2,424	100,379	109,014	92,232	2,043	26,842	1,534	-	6,601	-	1,902	-	-	-	-	388,280	73	2,840	27,798
Hyannis,	7,938	3,380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,318	2	758	3,678
Ipswich,	4,947	12,549	3,808	2,469	-	1,973	152	-	-	-	-	-	-	-	-	-	-	25,898	4	4,778	152
Lawrence,	-	36,647	2,120	144,775	383,102	178,114	82,205	22,473	28,453	-	3,258	-	432	-	-	-	-	882,589	167	829	21,311
Leominster,	1,400	8,486	1,320	25,169	107,157	7,650	9,254	116	-	-	-	-	-	-	-	-	-	160,552	30	2,152	6,992
Lexington,	10,975	1,850	-	2,050	24,702	1,860	450	-	-	-	-	-	-	-	-	-	-	41,887	7	4,927	3,701
Lowell,	43,902	245,866	2,482	57,299	272,796	174,984	31,874	32,963	48,166	1,000	7,605	5,326	1,575	4,275	-	-	-	930,444	176	1,164	1,206
Lynn,	10,134	46,638	13,654	32,265	243,374	358,325	71,938	11,991	14,926	412	12,636	-	13,432	2,500	-	-	-	932,225	176	2,945	51,582
Malden,	11,879	18,630	-	143,999	408,358	277,167	18,932	29,472	38,682	-	28,636	-	929	6,405	-	-	-	978,089	185	1,289	45,428
Marion,	61,394	2,343	457	750	-	-	-	-	-	-	-	-	-	-	-	-	-	64,944	12	1,584	-
Marlborough-Hudson,	99,665	112,556	296	17,726	102,040	5,930	3,100	-	250	-	-	-	-	-	-	-	-	341,563	64	3,643	96,190
Milford,	6,669	15,909	-	11,570	19,465	14,963	3,525	-	-	-	-	-	-	-	-	-	-	72,101	13	3,461	10,139
Natick,	5,126	18,231	-	32,978	13,208	2,920	-	-	-	-	-	-	-	-	-	-	-	72,463	13	3,823	10,106
New Bedford,	42,962	18,175	-	183,441	252,866	75,730	24,564	-	29,585	-	3,136	-	640	-	-	-	-	631,079	119	2,759	57,781
Newburyport,	10,704	28,538	-	33,962	31,496	25,576	1,620	4,260	-	-	-	-	-	-	-	-	-	146,166	27	3,596	1,375
Newton,	2,124	6,289	-	252,593	531,885	146,849	58,567	69,526	4,781	-	-	-	-	-	-	-	-	1,072,614	203	774	62,314

North Adams, . . .	2,978	17,452	211	63,406	59,246	23,579	1,025	1,959	-	764	-	-	-	-	-	170,620	32	1,000	1,268
Northampton, . . .	20,443	1,696	-	78,340	97,726	9,702	1,420	84	733	-	320	-	-	-	-	210,464	39	4,544	19,556
North Attleborough, . .	1,512	21,240	149	38,484	30,011	7,108	7,016	-	1,060	-	-	-	-	-	-	106,580	20	980	11,136
Norwood, . . .	31,640	24,983	-	-	26,257	8,939	-	4,956	-	-	-	-	-	-	-	105,774	20	174	4,864
Old Colony, . . .	119,486	68,746	-	10,349	34,056	33,792	37,699	-	-	-	-	-	-	-	-	304,128	57	3,168	204,128
Otis Co (Ware), . . .	3,883	20,595	-	2,676	6,546	2,549	1,814	-	-	-	-	-	-	-	-	38,063	7	1,103	144
People's (Stoneham), . .	741	3,603	-	19,490	23,440	20,906	10,390	-	7,261	-	-	-	-	-	-	85,831	16	1,351	22,940
Pittsfield, . . .	43,981	43,767	2,001	24,447	169,555	35,222	21,838	4,088	3,663	3,414	-	-	-	-	-	351,976	66	3,496	36,606
Plymouth, . . .	323	4,247	-	18,060	18,574	21,158	-	-	-	-	-	-	-	-	-	62,362	11	4,282	10,964
Sadler, T. G. (South Attleborough), . . .	3,300	700	-	-	-	-	-	-	-	-	-	-	-	-	-	4,000	-	4,000	-
Salem, . . .	3,844	34,051	-	48,512	202,976	72,031	13,428	7,749	5,738	-	5,254	-	-	-	-	393,583	74	2,863	26,174
South Hadley, . . .	4,288	6,351	-	300	-	-	-	-	-	-	-	-	-	-	-	10,939	2	379	100
Spencer, . . .	5,733	32,744	-	16,634	10,700	5,015	-	-	-	-	-	-	-	-	-	70,826	13	2,186	11,764
Springfield, . . .	4,204	14,168	-	127,020	392,238	321,459	38,950	43,284	15,915	-	34,390	-	2,536	6,900	2,799	1,008,863	190	663	35,632
Suburban (Revere), . .	2,318	15,142	-	675	173,368	79,039	17,308	35,370	-	-	1,722	-	81	1,370	-	326,393	61	4,313	12,446
Sunderland, . . .	2,800	2,800	900	-	-	-	-	-	-	-	-	-	-	-	-	6,500	1	1,220	-
Taunton, . . .	50,573	18,172	-	88,669	120,529	90,263	18,247	1,366	9,889	6,538	-	-	-	-	-	404,246	76	2,966	40,790
Vineyard Haven, . . .	9,649	5,684	-	1,030	-	-	-	-	-	-	-	-	-	-	-	16,363	3	523	-
Vineyard Lighting (Oak Bluffs), . . .	431	105	-	2,532	6,584	2,002	975	-	-	-	-	-	-	-	-	12,629	2	2,069	-
Waite & Smith (South Dartmouth), . . .	-	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	1,300	-	1,300	-
Webster, . . .	3,918	5,171	755	79,636	26,075	16,322	-	960	-	-	-	-	-	-	-	132,837	25	837	9,317
Williamstown, . . .	19,882	17,022	-	15,665	12,054	311	-	-	-	-	-	-	-	-	-	64,934	12	1,574	-
Woburn, . . .	5,625	16,032	-	25,291	12,402	1,900	3,430	-	-	-	-	-	-	-	-	64,680	12	1,320	12,202
Worcester County, . . .	152,428	64,948	-	190,680	5,163	-	-	-	-	-	-	-	-	-	-	413,219	78	1,379	43,267
Worcester, . . .	6,775	67,452	-	210,840	350,267	171,918	66,177	16,670	6,562	3,164	7,746	0,027	19,971	7,117	-	940,676	178	836	49,436

¹ Includes 294 feet of three and one-half inch main.

² Includes 341 feet of four and one-half inch main.

TABLE 12. — Meters.

The total number of meters in use June 30, 1912, was 532,559, representing a nominal capacity of 2,792,041 lights, being an increase over the previous year of 38,653 meters of a rated capacity of 216,030 lights. Of the total number 141,996 are prepayment meters, an increase of 26,040 during the year. This type of meter is in use by 50 of the companies.

The following table shows the details concerning numbers and sizes: —

COMPANY.	NUMBER AND SIZE OF METERS.																	Total Number in Use June 30, 1912.	In-crease during the Year.					
	2 Light.	3 Light.	5 Light.	10 Light.	20 Light.	30 Light.	35 Light.	40 Light.	45 Light.	50 Light.	60 Light.	80 Light.	100 Light.	120 Light.	125 Light.	150 Light.	180 Light.			200 Light.	250 Light.	300 Light.	400 Light.	500 Light.
Adams, .	-	958	282	12	9	-	-	-	-	1	3	2	1	-	-	1	-	-	-	-	-	-	1,269	69
Amesbury, .	21	1,179	29	21	7	1	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	1,261	126
Amherst, .	-	110	144	9	7	4	-	-	-	3	-	-	2	-	-	-	-	-	-	-	-	-	279	141
Arlington, .	-	1,512	1,423	61	29	41	-	-	1	10	1	1	-	-	-	-	-	-	-	-	-	-	3,079	413
Athol, .	-	453	59	15	9	6	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	552	100
Attleboro, .	41	2,056	546	33	44	21	1	-	-	10	2	3	4	-	-	-	-	1	-	-	-	-	2,762	286
Atwood, L. S. (Chatham), .	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	3	
Barnardston, .	-	15	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	14	
Beverly, .	-	2,404	2,487	80	27	21	-	-	5	10	2	1	1	-	-	-	-	-	1	-	-	5,039	1,947	
Blackstone, .	-	100	144	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	248	35	
Boston, .	3	50,212	69,734	15,343	4,464	1,760	-	-	53	599	186	176	226	-	-	103	77	27	31	-	6	142,995	7,806	
Brockton, .	18	3,355	9,269	206	86	43	-	-	1	19	3	4	3	-	-	5	-	-	-	-	-	13,012	1,810	
Cambridge, .	14	18,920	10,159	657	268	130	-	-	3	58	6	9	45	-	-	13	1	-	1	-	-	30,286	1,943	
Charlestown, .	3	9,945	417	242	65	49	-	-	1	10	10	6	6	-	-	2	-	2	-	-	-	10,760	395	
Chicopee, .	-	2,244	1,837	32	13	12	-	-	2	12	4	-	5	-	-	1	-	-	-	-	-	4,162	411	
Citizens' (Nantucket), .	-	360	30	6	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	406	26	
Citizens' (Quincy), .	-	1,589	3,897	40	31	17	-	-	1	9	1	5	-	-	-	1	-	1	2	-	-	5,594	1,120	
Clinton, .	2	864	151	29	11	4	-	-	-	-	2	1	2	-	-	2	3	-	1	-	-	1,072	64	
Cotuit, .	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	4	
Dedham, .	-	1,483	1,181	20	13	7	-	-	1	6	3	-	2	-	-	1	-	-	-	-	-	2,717	198	

TABLE 12. — Meters — Concluded.

COMPANY.	NUMBER AND SIZE OF METERS.																Total Number in Use June 30, 1912.	In- crease during the Year.						
	2 Light.	3 Light.	5 Light.	10 Light.	20 Light.	30 Light.	35 Light.	40 Light.	45 Light.	50 Light.	60 Light.	65 Light.	80 Light.	100 Light.	120 Light.	125 Light.			150 Light.	180 Light.	200 Light.	250 Light.	300 Light.	400 Light.
People's (Stoneham),	2	328	407	8	6	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pittsfield,	-	1,070	5,952	151	34	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plymouth,	53	942	27	19	10	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sadler, T. G. (South Attle- borough),	-	20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Salem,	-	7,755	2,834	141	71	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
South Hadley,	-	28	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spencer,	-	637	97	11	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Springfield,	-	9,049	15,625	240	219	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Suburban (Revere),	-	89	7,398	126	38	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunderland,	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Taunton,	5	4,640	466	157	68	52	-	19	6	6	12	-	-	7	-	-	-	-	-	-	-	-	-	-
Vineyard Haven,	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vineyard (Oak Bluffs),	-	226	75	5	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waite & Smith (South Dartmouth),	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Webster,	24	2,796	131	37	10	3	-	4	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Williamstown,	-	207	69	5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Woburn,	22	646	75	26	10	4	-	5	3	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Worcester County,	-	807	671	6	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Worcester,	9	19,632	4,515	407	397	24	-	81	2	3	6	33	-	4	2	1	-	-	-	-	-	-	-	-

1 Decrease.

TABLE 13. — *Gas Stoves and Engines.*

In the following table, designed to show the number of gas stoves and engines supplied by the several companies on June 30, 1912, the figures given are as stated in the annual returns.

COMPANY.	Gas Stoves.	Gas Engines.
Adams,	901	—
Amesbury,	674	1
Amherst,	134	—
Arlington,	2,711	3
Athol,	254	2
Attleboro,	1,100	1
Beverly,	2,146	—
Blackstone,	143	—
Boston,	— ¹	315
Brockton,	7,723	15
Cambridge,	— ¹	— ¹
Charlestown,	— ¹	28
Chicopee,	1,799	18
Citizens' (Nantucket),	104	2
Citizens' (Quincy),	3,053	8
Clinton,	730	4
Danvers,	498	—
Dedham,	3,039	9
East Boston,	4,100	34
Easthampton,	476	—
Edison (Brockton),	86	—
Fall River,	25,297	56
Fitchburg,	4,893	—
Framingham,	1,302	2
Gardner,	422	2
Gloucester,	1,953	20
Greenfield,	1,165	—
Haverhill,	8,125	28
Hyannis,	6	—
Ipswich,	146	2
Lawrence,	22,916	27
Leominster,	1,607	1
Lexington,	128	1
Lowell,	15,152	60
Lynn,	37,039	19
Malden,	12,184	48
Marion,	23	—
Marlborough-Hudson,	3,035	1
Milford,	281	3
Natick,	— ¹	6
New Bedford,	16,578	36
Newburyport,	1,342	—
Newton,	9,791	28
North Adams,	3,114	—
Northampton,	2,607	3
North Attleborough,	590	3
Norwood,	720	2

¹ Unknown.

TABLE 13. — *Gas Stoves and Engines* — Concluded.

COMPANY.	Gas Stoves.	Gas Engines.
Old Colony,	671	—
Otis Co. (Ware),	496	1
People's (Stoneham),	— ¹	1
Pittsfield,	4,772	4
Plymouth,	782	—
Sadler, T. G. (South Attleborough),	17	—
Salem,	5,150	—
South Hadley,	16	—
Spencer,	300	6
Springfield,	21,350	47
Suburban (Revere),	6,087	1
Sunderland,	1	—
Taunton,	3,998	15
Vineyard Haven,	15	—
Vineyard Lighting (Oak Bluffs),	87	—
Waite & Smith (South Dartmouth),	2	—
Webster,	2,352	—
Williamstown,	295	—
Woburn,	457	1
Worcester County,	943	4
Worcester,	14,500	25

¹ Unknown.

TABLE 14. — *Public Gas Lamps.*

The following table shows the number of street lamps supplied June 30, 1912, the net increase or decrease during the year, the average price per thousand feet received from gas used in such lamps, and the cost per thousand feet for the care of the lamps where this is done by the companies: —

COMPANY.	Number of Lamps supplied.	Increase.	Decrease.	Price received per M including Expenses.	Expense of Lighting and Care of Lamps per M.
Boston, . . .	11,756	150	—	\$0 781	—
Cambridge, . . .	350	—	44	85	—
Charlestown, . . .	522	2	—	85	—
Citizens' (Nantucket), . . .	1	—	—	2 00	—
Citizens' (Quincy), . . .	222	9	—	1 06	\$0 08
Cotuit, . . .	8	3	—	30 00	3 86
East Boston, . . .	944	27	—	793	02
Fall River, . . .	470	—	1	80	—
Gardner, . . .	117	—	—	2 00	1 23
Gloucester, . . .	115	—	1	1 00	—
Haverhill, . . .	493	22	—	2 20	1 25
Hyannis, . . .	33	1	—	30 00	—
Lawrence, . . .	100	4	—	887	21
Lowell, . . .	1,523	11	—	1 81	1 08
Marion, . . .	165	7	—	21 00	4 73
Natick, . . .	121	3	—	1 25	—
New Bedford, . . .	1,162	40	—	2 38	1 59
Newton, . . .	1,066	2	—	1 69	83
Otis Co. (Ware), . . .	1	—	—	1 50	—
Springfield, . . .	155	19	—	85	72
Vineyard Haven, . . .	48	—	—	17 37	—
Webster, . . .	1	—	—	1 49	—
Worcester County, . . .	100	9	—	4 67	3 52
Worcester, . . .	583	7	—	78	—

TABLE 15. — *Analysis of Income and Expenditure of the Larger Companies.*

1. INCOME.

No. of Company.		Gas Income.										TOTAL INCOME.		Income from Sources other than Gas Business, including Net Income from Electric Business.	TOTAL INCOME FOR YEAR.		No. of Company.
		From Other Sources.	TOTAL INCOME.		Per M sold.	Amount.	Per M sold.	Amount.									
1	Boston.	\$3,701,797	10	\$111,579	51	\$320,772	64	\$27,551	53	\$32,285	45	-	-	\$4,193,986	23	90.75412	1
2	Brockton.	239,857	24	-	-	-	-	3,776	01	3,152	01	-	-	246,795	26	1.1396	2
3	Cambridge.	648,641	97	3,848	43	513	57	76,656	56	13,870	39	-	-	743,530	92	.97496	3
4	Charlestown.	223,240	78	5,176	67	-	-	62,083	21	290	90	\$290,791	56	319,933	34	-	4
5	East Boston.	291,707	39	10,115	27	6,229	55	13,097	75	981	28	-	-	325,542	87	.86767	5
6	Fall River.	442,979	87	4,907	56	-	-	2,104	80	2,691	76	-	-	452,083	99	.82196	6
7	Fitchburg.	116,701	66	-	-	-	-	6,476	05	1,428	56	-	-	181,554	69	-	7
8	Haverhill.	202,064	62	6,825	05	-	-	3,286	60	7,055	74	-	-	219,232	01	.93226	8
9	Lawrence.	398,791	26	1,513	47	-	-	38,743	10	1,780	58	441,028	41	560,912	38	-	9
10	Lowell.	495,270	47	33,396	07	-	-	73,049	08	22,372	08	-	-	624,107	70	1.0507	10
11	Lynn.	541,759	30	-	-	79	38	38,970	69	11,466	21	592,275	58	800,043	59	-	11
12	Malden.	406,643	49	-	-	53,901	16	25,803	03	6,629	73	491,877	41	491,877	41	.84687	12
13	New Bedford.	372,346	42	-	-	-	-	24,002	46	20,338	06	451,640	38	560,402	75	-	13
14	Newton.	362,987	15	32,656	04	-	-	195	49	19,437	42	-	-	390,956	81	.93923	14
15	Pittsfield.	158,124	61	8,335	76	-	-	1,857	85	968	44	-	-	160,950	70	1.0799	15
16	Salem.	173,804	14	-	-	-	-	15,810	30	1,838	91	-	-	191,453	35	1.1375	16
17	Springfield.	528,806	22	3,146	28	26,455	28	44,353	95	13,132	21	-	-	615,393	94	.88927	17
18	Suburban.	129,220	52	-	-	-	-	-	-	2,293	75	-	-	200,130	22	-	18
19	Taunton.	124,547	41	-	-	-	-	23,348	13	533	27	-	-	148,428	81	1.1735	19
20	Worcester.	607,154	87	5,281	17	-	-	55,003	49	2,446	82	-	-	669,896	35	.85474	20

2. OPERATING EXPENSES.
(a) Expenses of Manufacture.

No. of Company	COMPANY.	COAL.		ENRICHERS.		PURIFIERS.		WATER.		No. of Company
		Amount.	Per M made.	Amount.	Per M made.	Amount.	Per M made.	Amount.	Per M made.	
1	Boston, .	\$247,636 58	\$0. 07840	\$342,216 50	\$0. 10834	\$7,315 86	\$0. 00232	\$6,085 83	\$0. 00193	1
2	Brockton, .	34,105 60	. 13666	24,928 43	. 09989	945 00	. 00379	619 25	. 00248	2
3	Cambridge, .	182,619 54	. 22750	22,215 61	. 02768	1,650 73	. 00206	2,893 24	. 00360	3
4	Charlestown, .	98,440 98	. 32845	-	-	88 98	. 00029	1,303 20	. 00435	4
5	East Boston, .	31,082 77	. 16511	11,834 20	. 06287	596 51	. 00317	866 40	. 00460	5
6	Fall River, .	57,769 64	. 09905	73,192 75	. 12549	515 53	. 00088	-	-	6
7	Fitchburg, .	24,119 53	. 21618	10,126 42	. 09076	370 21	. 00332	289 07	. 00259	7
8	Haverhill, .	23,895 70	. 09591	25,723 53	. 10324	2,404 20	. 00965	511 49	. 00206	8
9	Lawrence, .	119,148 23	. 25437	22,863 02	. 04881	1,374 33	. 00293	459 53	. 00098	9
10	Lowell, .	158,285 24	. 25859	28,313 60	. 04626	4,032 60	. 00659	7 31	. 00001	10
11	Lynn, .	110,296 19	. 13892	50,179 21	. 06320	1,713 66	. 00216	3,170 53	. 00399	11
12	Malden, .	91,442 37	. 15293	37,331 54	. 06243	1,444 07	. 00242	2,471 91	. 00413	12
13	New Bedford, .	80,050 86	. 16133	28,298 55	. 05703	49 45	. 00010	1,756 37	. 00354	13
14	Newton, .	-	-	-	-	-	-	-	-	14
15	Pittsfield, .	24,428 08	. 15714	15,700 91	. 10100	105 90	. 00068	722 77	. 00465	15
16	Salem, .	32,623 00	. 16554	12,357 83	. 06271	292 62	. 00148	546 62	. 00277	16
17	Springfield, .	113,904 37	. 15817	47,586 56	. 06608	2,651 33	. 00368	732 96	. 00102	17
18	Suburban, .	-	-	-	-	-	-	-	-	18
19	Taunton, .	52,328 35	. 36136	378 20	. 00261	626 27	. 00433	-	-	19
20	Worcester, .	179,023 04	. 21788	47,150 91	. 05739	2,622 30	. 00319	2,631 19	. 00320	20

2. OPERATING EXPENSES — Continued.
(a) Expenses of Manufacture — Continued.

No. of Company.	COMPANY.	WAGES.		REPAIRS AND MAINTENANCE.		RENEWALS.		APPARATUS AND MACHINERY.		No. of Company.
		Amount.	Per M made.	Amount.	Per M made.	Amount.	Per M made.	Amount.	Per M made.	
1	Boston, .	\$114,228 21	\$0.03616	\$49,299 02	\$0.01561	—	—	\$17,420 11	\$0.00551	1
2	Brockton, .	18,617 14	.07460	12,087 14	.04844	\$2,510 31	\$0.01006	494 97	.00198	2
3	Cambridge, .	40,271 75	.05107	51,745 79	.06446	4,597 07	.00572	518 87	.00065	3
4	Charlestown, .	23,776 52	.07933	26,915 64	.08990	—	—	481 67	.00161	4
5	East Boston, .	20,095 11	.10674	6,028 43	.03202	—	—	989 15	.00526	5
6	Fall River, .	16,100 47	.02761	5,411 84	.00928	—	—	8,365 28	.01434	6
7	Fitchburg, .	11,028 93	.09885	851 69	.00764	2,804 73	.02514	2,468 06	.02212	7
8	Haverhill, .	9,115 83	.03659	6,416 21	.02575	—	—	—	—	8
9	Lawrence, .	40,115 19	.08564	16,096 04	.03437	6,135 01	.01310	3,329 65	.00711	9
10	Lowell, .	34,941 10	.05709	15,941 53	.02604	—	—	11,589 68	.01893	10
11	Lynn, .	33,075 97	.04166	38,885 76	.04898	4,081 33	.00514	346 81	.00044	11
12	Malden, .	43,483 36	.07272	2,765 71	.00463	14,791 17	.02474	8,457 79	.01414	12
13	New Bedford, .	22,889 59	.04613	18,400 34	.03708	—	—	674 66	.00136	13
14	Newton, .	—	—	9,715 91	.02334	—	—	2,802 35	.00673	14
15	Pittsfield, .	12,486 63	.08032	4,216 79	.02712	2,441 65	.01571	465 50	.00299	15
16	Salem, .	20,116 12	.10208	—	—	5,433 52	.02757	460 21	.00234	16
17	Springfield, .	48,121 98	.06682	5,136 99	.00713	25,220 34	.03502	9,848 48	.01368	17
18	Suburban, .	—	—	—	—	43 80	—	—	—	18
19	Taunton, .	20,030 03	.15213	5,361 35	.03703	1,488 56	.01028	302 80	.00209	19
20	Worcester, .	33,789 83	.04112	67,676 13	.08237	—	—	—	—	20

2. OPERATING EXPENSES — Continued.
(a) Expenses of Manufacture — Concluded.

No. of Company.	COMPANY.	TOTAL COST OF MANUFACTURE.		NET COST IN HOLDER (COST LESS RESIDUALS SOLD).		GAS PURCHASED.		TOTAL NET COST OF GAS MADE AND PURCHASED IN HOLDER.		No. of Company.
		Amount.	Per M made.	Amount.	Per M made.	Amount.	Per M bought.	Amount.	Per M sold.	
1	Boston, .	\$784,202 11	\$0.24827	\$753,344 40	\$0.23850	\$743,325 48	\$0.28454	\$1,496,669 88	\$0.26910	1
2	Brockton, .	94,307 84	.37790	90,531 83	.36276	—	—	90,531 83	.41802	2
3	Cambridge, .	306,512 60	.38184	229,856 04	.28635	—	—	229,856 04	.30140	3
4	Charlestown, .	151,006 99	.50383	88,923 78	.29669	258 10	.47500	89,178 88	.33417	4
5	East Boston, .	71,492 57	.37977	58,394 82	.31019	80,112 00	.40000	138,506 82	.36916	5
6	Fall River, .	161,355 51	.27665	159,250 71	.27304	—	—	159,250 71	.28916	6
7	Fitchburg, .	52,058 64	.46660	45,582 59	.40856	—	—	45,582 59	.44339	7
8	Haverhill, .	68,066 96	.27320	64,780 36	.26000	—	—	64,780 36	.27547	8
9	Lawrence, .	209,521 00	.44731	170,777 90	.36460	—	—	170,777 90	.38697	9
10	Lowell, .	253,111 06	.41351	180,061 98	.29417	—	—	180,061 98	.30315	10
11	Lynn, .	241,749 50	.30449	202,778 81	.25540	—	—	202,778 81	.27290	11
12	Malden, .	202,187 92	.33814	176,384 89	.29498	513 57	.85000	176,898 46	.30457	12
13	New Bedford, .	152,119 82	.30657	128,117 36	.25820	—	—	128,117 36	.27112	13
14	Newton, .	—	—	188,797 94 ¹	.43863 ²	176,475 17	.41000	188,797 94	.45356	14
15	Pittsfield, .	60,568 23	.38961	58,710 58	.37766	—	—	58,710 58	.39393	15
16	Salem, .	71,829 92	.36449	56,019 62	.28426	79 38	.63000	56,099 00	.33330	16
17	Springfield, .	253,203 01	.35160	208,849 06	.29001	—	—	208,849 06	.30180	17
18	Suburban, .	—	—	56,351 12 ¹	.41312 ²	56,307 32	.41280	56,351 12	.42748	18
19	Taunton, .	82,515 56	.56983	59,167 43	.40859	—	—	59,167 43	.46779	19
20	Worcester, .	332,893 40	.40515	277,889 91	.33821	—	—	277,889 91	.35457	20

² Per M bought.

¹ All gas bought.

2. OPERATING EXPENSES — Continued.

(b) Expenses of Distribution.

No. of Company.	COMPANY.	WAGES.		REPAIRS OF MAINS AND SERVICES.		REPAIRS AND RENEWALS OF METERS.		TOOLS AND APPLIANCES.		No. of Company.
		Amount.	Per M sold.	Amount.	Per M sold.	Amount.	Per M sold.	Amount.	Per M sold.	
1	Boston, .	\$162,490 13	\$0.02922	\$138,031 05	\$0.02482	\$81,696 53	\$0.01469	\$31,747 73	\$0.00571	1
2	Brockton, .	9,904 79	.04573	9,775 16	.04513	4,166 15	.01924	12,785 95	.05904	2
3	Cambridge, .	31,960 09	.04191	29,842 84	.03913	22,360 47	.02932	6,097 92	.00800	3
4	Charlestown, .	12,391 70	.04643	8,758 11	.03282	2,880 67	.01079	941 59	.00353	4
5	East Boston, .	21,096 40	.05623	3,821 00	.01018	7,836 88	.02089	5,762 09	.01536	5
6	Fall River, .	14,075 22	.02556	19,188 20	.03484	20,630 71	.03746	4,001 71	.00726	6
7	Fitchburg, .	4,597 14	.04472	3,164 56	.03078	1,563 64	.01521	3,794 37	.03691	7
8	Haverhill, .	2,415 96	.01028	3,694 79	.01571	6,063 46	.02578	3,167 29	.01347	8
9	Lawrence, .	6,112 67	.01385	7,898 88	.01790	16,290 62	.03691	-	-	9
10	Lowell, .	28,372 52	.04777	12,418 81	.02091	14,591 18	.02456	2,733 09	.00460	10
11	Lynn, .	22,665 51	.03051	26,876 44	.03617	17,388 91	.02340	9,825 19	.01322	11
12	Malden, .	14,877 14	.02561	12,451 74	.02144	6,933 48	.01194	7,854 30	.01352	12
13	New Bedford, .	21,579 64	.04567	2,130 93	.00451	5,387 82	.01140	1,819 19	.00385	13
14	Newton, .	13,487 37	.03240	10,178 60	.02445	5,414 94	.01301	20,830 44	.05004	14
15	Pittsfield, .	6,887 95	.04622	4,395 18	.02949	3,332 57	.02236	993 16	.00666	15
16	Salem, .	6,772 43	.04024	5,368 30	.03189	1,911 82	.01136	5,733 39	.03406	16
17	Springfield, .	18,678 03	.02699	5,119 18	.00740	3,368 24	.00487	23,255 74	.03360	17
18	Suburban, .	3,776 78	.02865	2,765 83	.02098	1,714 48	.01301	3,937 70	.03030	18
19	Taunton, .	8,115 44	.06416	871 65	.00689	250 65	.00198	-	-	19
20	Worcester, .	19,866 60	.02535	10,892 73	.01390	21,307 06	.02718	-	-	20

2. OPERATING EXPENSES — Continued.
(b) Expenses of Distribution — Concluded.

No. of Company.	COMPANY.	GAS STOVES.		PUBLIC LAMPS.		OTHER EXPENSES.		TOTAL COST OF DISTRIBUTION.		No. of Company.
		Amount.	Per M sold.	Amount.	Per M sold.	Amount.	Per M sold.	Amount.	Per M sold.	
1	Boston, .	\$32,597 00	\$0.00586	—	—	—	—	\$446,562 44	\$0.08030	1
2	Brockton, .	6,185 32	.02560	\$6,423 19	\$0.02966	—	—	49,240 56	.22736	2
3	Cambridge, .	7,741 13	.01015	—	—	—	—	98,002 45	.12851	3
4	Charlestown, .	147 13	.00055	—	—	—	—	25,119 20	.09412	4
5	East Boston, .	2,515 15	.00671	313 41	.00083	—	—	41,344 93	.11020	5
6	Fall River, .	11,984 59	.02176	—	—	—	—	69,880 43	.12688	6
7	Fitchburg, .	3,037 79	.02955	—	—	—	—	16,157 50	.15717	7
8	Haverhill, .	7,660 61	.03258	9,358 02	.03974	—	—	32,360 13	.13761	8
9	Lawrence, .	5,249 17	.01190	451 66	.00102	—	—	36,003 00	.08158	9
10	Lowell, .	23,622 43	.03977	19,861 98	.03344	—	—	101,600 01	.17105	10
11	Lynn, .	9,960 10	.01340	—	—	—	—	86,716 15	.11670	11
12	Malden, .	4,703 38	.00810	—	—	—	—	46,820 04	.08061	12
13	New Bedford, .	—	—	35,868 16	.07590	—	—	66,785 74	.14133	13
14	Newton, .	2,180 92	.00524	8,714 05	.02094	—	—	60,806 32	.14608	14
15	Pittsfield, .	120 69	.00081	—	—	—	—	15,729 55	.10554	15
16	Salem, .	—	—	—	—	—	—	19,785 94	.11755	16
17	Springfield, .	5,497 32	.00793	2,657 74	.00384	—	—	58,576 25	.08464	17
18	Suburban, .	—	—	—	—	—	—	13,743 31	.10426	18
19	Taunton, .	—	—	—	—	—	—	9,237 74	.07303	19
20	Worcester, .	4,379 46	.00559	—	—	—	—	56,445 85	.07202	20

2. OPERATING EXPENSES — Concluded.
(c) Office and Other Operating Expenses.

No. of Company.	COMPANY.	OFFICE EXPENSES.		TAXES.		MISCELLANEOUS EXPENSES.		TOTAL COST OF MANUFACTURE, PURCHASE AND DISTRIBUTION OF GAS LESS RESIDUALS.		No. of Company.
		Amount.	Per M sold.	Amount.	Per M sold.	Amount.	Per M sold.	Amount.	Per M sold.	
1	Boston, .	\$322,247 80	\$0. 05794	\$429,780 20	\$0. 07728	\$24,107 39	\$0. 00433	\$2,719,289 03	\$0. 48895	1
2	Brockton, .	20,323 77	.09384	14,070 85	.06497	2,429 38	.01122	176,596'39	.81541	2
3	Cambridge, .	39,123 14	.05130	57,536 49	.07545	8,064 30	.01057	432,582 42	.56723	3
4	Charlestown, .	12,528 48	.04695	22,742 64	.08522	1,722 57	.00645	151,291 77	.56691	4
5	East Boston, .	38,653 15	.10302	22,830 00	.06085	2,351 64	.00627	243,686 54	.64950	5
6	Fall River, .	36,999 68	.06718	40,836 46	.07415	4,840 39	.00879	311,807 67	.56617	6
7	Fitchburg, .	21,171 81	.20594	9,304 44	.09050	3,420 42	.03327	95,636 76	.93027	7
8	Haverhill, .	31,632 66	.13452	14,747 29	.06271	4,624 07	.01966	148,144 51	.62997	8
9	Lawrence, .	35,774 61	.08106	43,881 66	.09943	8,192 34	.01856	294,629 51	.66760	9
10	Lowell, .	26,714 13	.04498	55,177 96	.09290	11,591 85	.01951	375,145 93	.63159	10
11	Lynn, .	24,663 12	.03319	52,874 80	.07116	8,220 63	.01107	375,253 51	.50502	11
12	Malden, .	48,417 02	.08336	48,381 84	.08330	13,002 11	.02238	333,519 47	.57422	12
13	New Bedford, .	25,635 83	.05425	42,056 03	.08900	2,842 41	.00602	265,437 37	.56172	13
14	Newton, .	46,974 60	.11285	17,880 00	.04296	2,190 93	.00526	316,649 79	.76071	14
15	Pittsfield, .	19,639 44	.13178	10,694 58	.07176	4,497 30	.03018	109,271 45	.73319	15
16	Salem, .	16,840 67	.10006	17,554 27	.10430	3,556 38	.02113	113,836 26	.67634	16
17	Springfield, .	74,344 77	.10743	46,292 85	.06690	11,046 72	.01596	399,109 65	.57673	17
18	Suburban, .	18,264 03	.13855	9,938 46	.07539	5,865 10	.04449	104,162 02	.79017	18
19	Taunton, .	8,922 37	.07054	8,125 90	.06425	1,208 50	.00956	86,661 94	.68517	19
20	Worcester, .	31,554 60	.04026	49,396 69	.06303	11,564 48	.01476	426,851 53	.54464	20

3. NET EARNINGS AND THEIR APPLICATION.

No. of Company	COMPANY.		BALANCE FROM YEAR'S OPERATION.		DEPRECIATION AND OTHER RESERVES.		OTHER EXPENSES.		No. of Company
			Amount.	Per M sold.	Amount.	Per M sold.	Amount.	Per M sold.	
1	Boston, .	.	\$1,555,662 30	\$0.27972	\$74,098 16	\$0.01332	\$51,471 14	\$0.00926	1
2	Brockton, .	.	66,252 74	.30591	16,000 00	.07388	631 26	.00291	2
3	Cambridge, .	.	234,291 94	.30722	55,664 33	.07299	4,091 51	.00537	3
4	Charlestown, .	.	{ 29,315 81 ¹	-	-	-	532 39	-	4
5	East Boston, .	.	{ 77,127 68 ²	.28901	22,977 50	.08610	-	-	5
6	Fall River, .	.	{ 65,010 95	.17327	1,553 87	.00414	1,168 40	.00311	6
7	Fitchburg, .	.	{ 138,752 27	.25194	50,000 00	.09079	1,768 84	.00325	7
8	Haverhill, .	.	{ 22,376 97 ³	.21766	5,989 91	-	6,575 17	-	8
9	Lawrence, .	.	{ 51,938 66 ¹	-	-	-	11,826 91	.05029	9
10	Lowell, .	.	{ 67,818 90	.28839	-	-	3,995 60	-	10
11	Lynn, .	.	{ 105,875 22 ²	.23990	5,000 00	-	7,750 50	.01305	11
12	Malden, .	.	{ 118,103 39 ¹	-	-	-	-	-	12
13	New Bedford, .	.	{ 179,691 07	.30253	34,542 81	.05816	3,384 73	.00582	13
14	Newton, .	.	{ 166,585 17 ³	.22419	1,947 04 ²	.00262	757 38	-	14
15	Pittsfield, .	.	{ 194,307 68 ¹	-	31,633 06 ³	-	579 29	.00139	15
16	Salem, .	.	{ 134,583 43	.23171	5,211 47 ¹	-	447 41	.00300	16
17	Springfield, .	.	{ 154,034 52 ²	.32597	2,726 76	.00470	510 20	.00303	17
18	Suburban, .	.	{ 104,172 67 ¹	-	943 89	-	2,438 81	.00352	18
19	Taunton, .	.	{ 79,771 88	.19165	4,413 07	.01060	4,040 83	-	19
20	Worcester, .	.	{ 49,821 60	.33429	15,866 44	.10646	75 00	.00059	20
			{ 61,806 79	.36721	628 45	.00373	-	-	
			{ 173,923 16	.25133	6,448 40	.00932	-	-	
			{ 25,058 50 ²	.19009	15,979 63	-	-	-	
			{ 62,697 11 ¹	-	14,561 86	.11513	-	-	
			{ 38,371 04	.30337	73,337 41	.09357	-	-	
			{ 187,994 58	.23987	-	-	-	-	

¹ Electricity.

² Gas.

³ Reserves.

3. NET EARNINGS AND THEIR APPLICATION — Concluded.

No. of Company.	COMPANY.	DIVIDENDS.			INTEREST.		UNAPPLIED EARNINGS.		No. of Company.
		Amount.	Rate Per Cent.	Per M sold.	Amount.	Per M sold.	Amount.	Per M sold.	
1	Boston, .	\$1,361,240 00	9	\$0.24476	\$96,292 25	\$0.01731	\$27,413 25 ¹	-	1
2	Brockton, .	33,540 00	6	.15487	17,409 99	.08039	1,158 39 ¹	-	2
3	Cambridge, .	120,000 00	10	.15735	18,531 24	.02430	36,004 86	\$0.04721	3
4	Charlestown, .	75,000 00	12½	-	2,695 74	-	3,102 37	-	4
5	East Boston, .	57,500 00	10	.15326	2,065 28	.00550	2,723 40	.00726	5
6	Fall River, .	82,800 00	12	.15034	7,424 78	.01348	3,259 35 ¹	-	6
7	Fitchburg, .	56,615 00	10	-	15,015 96	-	20,755 95 ¹	-	7
8	Haverhill, .	-	-	-	13,343 17	.05674	42,648 82	.18136	8
9	Lawrence, .	152,000 00	8	-	41,974 97	-	24,569 21	-	9
10	Lowell, .	120,000 00	12	.20203	7,264 62	.01223	10,133 14	.01706	10
11	Lynn, .	189,200 00	16	-	410 55	-	65,993 77	-	11
12	Malden, .	110,880 00	7	.19091	16,139 98	.02778	1,451 96	.00250	12
13	New Bedford, .	127,188 00	12	-	2,706 74	-	179,570 97	-	13
14	Newton, .	61,600 00	11	.14799	7,419 57	.01783	5,759 95	.01384	14
15	Pittsfield, .	27,720 00	7	.18599	1,291 18	.00867	4,496 57	.03017	15
16	Salem, .	44,964 00	9	.26714	2,830 20	.01681	12,873 94	.07649	16
17	Springfield, .	136,500 00	12	.19725	18,161 83	.02625	10,374 12	.01499	17
18	Suburban, .	61,310 50	9	-	4,783 84	-	6,917 02	-	18
19	Taunton, .	22,000 00	10	.17394	705 58	.00558	1,028 60	.00813	19
20	Worcester, .	138,000 00	12	.17608	11,849 43	.01512	35,192 26 ¹	-	20

¹ Deficit.

APPENDIX E.—ELECTRIC STATISTICS.

TABLE 1. — *Financial Statistics for the Year ending June 30, 1912.*

COMPANY.	Capital Stock.	STOCK- HOLDERS.		Value at Par of Stock held in Massachu- setts.	DIVIDENDS.	
		Whole Number.	Resident in Massachusetts.		Amount.	Rate Per Cent.
Abington and Rockland, .	\$189,000	109	107	\$187,300	\$15,120 00	8
Amesbury,	70,300	27	24	69,500	3,690 75	5½
Attleborough,	235,000	38	38	235,000	35,250 00	15
Ayer,	30,000	6	4	29,800	2,700 00	9
Block Plant (Boston), .	9,500	3	3	9,500	—	1—
Bridges, J. B. & Co. (So. Deerfield),	—	—	—	—	193 06	3½
Buzzards Bay (Falmouth),	11,000	4	4	11,000	—	1—
Cambridge,	850,000	135	125	837,800	187,000 00	22
Cape (Provincetown), .	35,000	23	3	18,100	—	1—
Central Mass.,	150,000	8	8	150,000	24,000 00	16
Charlemont,	3,000	3	3	3,000	—	1—
Chester,	5,000	4	4	5,000	300 00	6
Deerfield River (Conway),	4,700	6	6	4,700	470 00	10
Edison (Boston), . . .	15,603,700	3,756	3,182	13,785,100	1,872,444 00	12
Fall River,	800,000	252	225	746,400	64,000 00	8
Foxborough,	16,500	5	5	16,500	990 00	6
Franklin,	20,000	12	11	19,600	2,000 00	10
Gardner,	170,000	95	94	169,900	11,050 00	2—
Gloucester,	245,000	66	65	241,500	12,250 00	37
Great Barrington, . . .	125,000	12	10	122,000	13,750 00	11
Greenfield,	500,000	169	154	486,700	24,750 00	46
Haverhill,	446,800	163	119	291,500	35,744 00	8
Huntington,	5,000	4	4	5,000	250 00	5
Hyde Park,	287,500	3	3	287,500	10,062 50	3½
Lee,	30,000	43	40	27,800	1,500 00	5
Lenox,	20,000	26	24	13,400	1,600 00	8
Leominster,	80,000	5	3	79,800	8,000 00	10
Lowell,	1,023,000	453	428	992,600	81,840 00	8

¹ No dividend declared.

² Eight per cent. on \$85,000 common stock; five per cent. on \$85,000 preferred stock.

³ On \$175,000.

⁴ Three per cent. on \$325,000; three per cent. on \$500,000.

TABLE 1. — *Financial Statistics* — Concluded.

COMPANY.	Capital Stock.	STOCK- HOLDERS.		Value at Par of Stock held in Massachu- setts.	DIVIDENDS.	
		Whole Number.	Resident in Massachusetts.		Amount.	Rate Per Cent.
Malden,	\$525,000	19	18	\$521,600	\$78,750 00	15
Manchester,	116,500	38	34	96,500	—	¹ —
Marlborough,	200,000	65	65	200,000	20,000 00	10
Middleton,	² 1,550	6	6	1,550	—	¹ —
Milford,	40,000	6	4	39,800	4,400 00	11
Mill River (Williamsburg),	15,000	6	4	14,800	1,575 00	10½
Montague,	² 2,000	8	8	2,000	—	¹ —
Northampton,	117,400	5	3	117,200	14,088 00	12
Norton,	5,000	3	3	5,000	—	¹ —
Pittsfield,	375,000	138	130	364,700	37,500 00	10
Plymouth,	120,000	7	7	120,000	7,200 00	6
Quincy,	250,000	94	91	244,300	20,000 00	8
Salem,	³ 495,000	9	8	494,500	53,731 00	⁴ 18
Seekonk,	5,000	4	—	—	—	¹ —
South Hadley Falls,	7,000	3	3	7,000	—	¹ —
Stockbridge,	40,000	25	25	40,000	2,400 00	6
Sunderland,	11,000	3	3	11,000	1,100 00	10
Tyngsborough,	² 7,500	4	4	7,500	—	¹ —
Union (Franklin),	93,800	6	6	93,800	1,200 00	⁵ 6
United (Springfield),	1,500,000	315	274	1,340,500	150,000 00	10
Ware,	57,000	34	34	57,000	2,400 00	⁶ 6
Westborough,	36,500	18	18	36,500	3,650 00	10
Weston,	30,000	3	3	30,000	3,000 00	10
Weymouth,	220,000	135	134	219,500	8,000 00	⁷ 6
Winchendon,	12,000	3	3	12,000	—	¹ —
Worcester,	1,000,000	255	234	927,100	100,000 00	10
Worcester Suburban,	400,000	79	78	389,800	16,500 00	⁸ 6

¹ No dividend declared.² Par value, \$25.³ Par value, \$50.⁴ Sixteen per cent. on \$275,000; two per cent. on \$486,550.⁵ On \$20,000.⁶ On \$40,000.⁷ Two per cent. on \$110,000; two per cent. on \$140,000; two per cent. on \$150,000.⁸ On \$275,000.

TABLE 2.

The following table shows the value of the several electric plants as assessed by the local authorities, and the amounts paid by the companies for taxes, including in the case of gas companies, only the amounts paid on account of their electric plants: —

COMPANY.	Assessed Value of Property.	Taxes.
Abington and Rockland,	\$156,590	\$5,265 70
Adams,	— ¹	641 52
Adams, U. S. (Townsend),	2,100	33 88
American Woolen (Maynard),	23,000	393 68
Amesbury,	70,000	1,330 50
Amherst,	39,650 ²	1,579 73
Athol,	— ¹	4,659 04
Attleborough,	245,400	8,515 51
Ayer,	14,175	148 95
Ballou, G. M. (Shirley),	5,500	89 22
Beverly,	— ¹	7,899 03
Blackstone,	15,000 ²	285 09
Block Plant, (Boston),	—	81 96
Bridges, J. B. & Co. (South Deerfield),	—	3 84
Buzzards Bay (Falmouth),	40,836	147 86
Cambridge,	1,200,000	38,985 33
Cape (Provincetown),	34,000	882 19
Central Mass.,	198,493	5,894 19
Charlemont,	1,000	21 36
Charlestown,	— ¹	3,154 55
Chester,	2,300	51 99
Citizens' (Nantucket),	12,965 ²	318 22
Clinton,	— ¹	1,841 25
Deerfield River (Conway),	4,700	86 99
Easthampton,	166,267 ²	2,698 82
Edison (Boston),	22,234,850	780,000 00
Edison (Brockton),	1,016,500	35,668 50
Fall River,	1,460,900	23,784 95
Fitchburg,	588,593 ²	13,828 55
Foxborough,	24,950	578 60
Franklin,	20,000	605 85
Gardner,	215,150	3,082 76
Gloucester,	352,850	6,379 82
Great Barrington,	60,000	2,358 77
Greenfield,	470,625	9,171 95
Haverhill,	756,000	15,339 72
Huntington,	4,000	91 70
Hyde Park,	105,300	8,249 78
Lawrence,	947,125 ²	26,900 43
Lee,	13,700	523 83
Lenox,	43,000	590 59
Leominster,	231,685	4,417 39
Loveland, W. O. (Ashby),	3,000	50 82
Lowell,	1,059,800	39,964 49
Ludlow Manufacturing Associates,	31,120	301 50

¹ The electric plant not assessed separately from gas plant.

² Assessed value of electric plant only.

TABLE 2 — *Concluded.*

COMPANY.	Assessed Value of Property.	Taxes.
Ludlow Manufacturing Company,	\$10,495	\$131 59
Lynn,	1,408,525 ¹	52,407 39
Malden,	1,158,400	21,414 56
Manchester,	109,100	908 68
Marion,	18,000 ¹	264 60
Marlborough,	225,005	8,458 22
Milford,	104,700	1,566 04
Mill River (Williamsburg),	15,000	198 82
Montague,	2,600	52 01
Nashua River (East Pepperell),	— ¹	187 00
New Bedford,	— ²	21,027 02
Newburyport,	— ²	5,362 68
Niles Estate (Boston),	—	5 94
North Adams,	— ²	3,934 75
Northampton,	218,000	4,093 89
Norton,	1,500	22 88
Pittsfield,	388,110	6,932 51
Plymouth,	112,500	2,127 86
Quincy,	358,075	9,172 79
Randolph,	19,000	531 97
Salem,	765,672	13,102 36
South Hadley Falls,	14,500	353 24
Spencer,	— ²	161 27
Stockbridge,	30,000	502 00
Suburban (Revere),	569,580 ²	13,724 50
Sunderland,	2,050	194 58
Tyngsborough,	3,000	38 90
Union (Franklin),	109,100	1,355 75
United (Springfield),	2,581,000	54,971 32
Vineyard (Oak Bluffs),	34,840 ²	449 77
Ware,	41,000	818 93
Webster,	207,225 ¹	3,089 44
Westborough,	— ²	—
Weston,	46,500	882 45
Weymouth,	122,750	2,106 35
Williamstown,	41,450 ²	782 45
Winchendon,	24,000	516 07
Worcester,	2,135,700	48,066 60
Worcester Suburban,	359,200	4,816 40
	\$43,107,701	\$1,341,631 96

¹ Assessed value of electric plant only.² The electric plant not assessed separately from gas plant.³ Plant leased; operated by Marlborough Electric Company.

TABLE 3. — *Capacity of Boilers, Engines and Dynamos.*

The following table shows the total rated horse-power of boilers and engines and the capacity of dynamos for light and power installed by the different companies on June 30 last: —

COMPANY.	Total Rated Horse- power (Boilers).	Total Rated Horse- power (Engines).	Total Rated Horse- power (Water- wheels).	DYNAMO CAPACITY IN KILOWATTS.		
				Dynamos other than Power Genera- tors.	Power Genera- tors.	Total Dynamo Ca- pacity.
Abington and Rockland,	740	1,080	—	885	—	885
Adams,	— ¹	—	—	—	—	—
Adams. U. S. (Townsend),	80	50	103	35	—	35
Amer. Woolen (Maynard),	— ²	925	—	600	—	600
Amesbury,	500	1,295	—	875 ³	50	925
Amherst,	550	720 ⁴	—	460	—	460
Athol,	1,070	1,775	1,430	1,400	635	2,035
Attleborough,	1,349	3,350	—	2,339	—	2,339
Ayer,	125	225	—	165	—	165
Ballou, G. M. (Shirley), .	125	100	84	120	—	120
Beverly,	1,129	2,250	—	1,700	—	1,700
Blackstone,	— ¹	—	—	—	—	—
Block Plant (Boston), .	238	397	—	252 ⁵	40	292 ⁶
Buzzards Bay (Falmouth),	400	710 ⁵	—	490	—	490
Cambridge,	3,200	7,583	—	5,325	200	5,525
Cape (Provincetown), .	—	240 ⁶	—	165	—	165
Central Mass.,	814 ⁷	1,300 ⁷	810 ⁸	325	1,375 ⁷	1,700
Charlemont,	60	35	100 ⁹	1 ¹⁰ 80	—	80
Charlestown,	— ¹	—	—	—	—	—
Chester,	—	15 ¹¹	52	28	—	28
Citizens' (Nantucket), .	280	199 ¹²	—	170	—	170
Clinton,	400	750	—	440	—	440
Deerfield River (Conway),	— ¹	—	—	—	—	—
Easthampton,	885	1,198	—	925	—	925
Edison (Boston),	38,088	120,600	—	86,400	—	86,400
Edison (Brockton), . . .	4,075 ¹³	8,177 ¹⁴	—	5,926	—	5,926
Fall River,	2,100	8,666	—	6,500	—	6,500
Fitchburg,	1,250	3,100	500	2,300	—	2,300
Foxborough,	— ¹	—	—	—	—	—
Franklin,	— ¹	—	—	—	—	—
Gardner,	150 ¹⁵	925 ¹⁶	—	500	340	840
Gloucester,	500	1,820	—	1,450	—	1,450
Great Barrington,	150	150	339	150	72	222
Greenfield,	2,350	4,750	1,200	4,050	—	4,050

¹ All current purchased.² Steam supplied from mill boilers.³ 120 kilowatts not in use.⁴ 90 horse-power not in use.⁵ Includes gasoline engine, 30 horse-power.⁶ Petroleum engines.⁷ Operated by company and owned by others.⁸ Operated by company; includes one owned by others; 360 horse-power not in use.⁹ Leased.¹⁰ 38 kilowatts not in use.¹¹ Gasoline engine.¹² Includes gas engine, 114 horse-power.¹³ 125 horse-power not in use.¹⁴ 80 horse-power not in use.¹⁵ Not in use.¹⁶ Petroleum engines, 675 horse-power; 250 horse-power not in use.

TABLE 3. — Capacity of Boilers, etc. — Continued.

COMPANY.	Total Rated Horse- power (Boilers).	Total Rated Horse- power (Engines).	Total Rated Horse- power (Water- wheels).	DYNAMO CAPACITY IN KILOWATTS.		
				Dynamos other than Power Genera- tors.	Power Genera- tors.	Total Dynamo Ca- pacity.
Haverhill,	1,950	7,250	—	4,950	—	4,950
Huntington,	125	80	—	45	—	45
Hyde Park,	— ¹	—	—	—	—	—
Lawrence,	6,446	5,040	3,175	5,742	—	5,742
Lee,	350	300	120	410	—	410
Lenox,	— ¹	—	—	—	—	—
Leominster,	900	1,375	—	925	—	925
Loveland, W. O. (Ashby),	60	68 ²	60	30	—	30
Lowell,	4,128	7,783	—	3,950	1,450	5,400
Ludlow Mfg. Co.,	— ¹	—	—	—	—	—
Lynn,	3,100	8,300	—	5,150	62 ³	5,212
Malden,	1,910	4,164	—	3,400	—	3,400
Manchester,	— ¹	—	—	—	—	—
Marion,	— ¹	—	—	—	—	—
Marlborough,	835	1,761	—	1,100	—	1,100
Middleton,	— ¹	—	—	—	—	—
Milford,	— ⁴	150	—	365	—	365
Mill River (Williamsburg),	— ¹	—	—	—	—	—
Montague,	—	40 ⁵	20	40	—	40
Nashua River (East Pepperell),	1,500	250	—	190	—	190
New Bedford,	2,172	3,800 ⁶	—	3,615	262	3,877
Newburyport,	600	1,525 ⁷	—	900 ⁸	—	900
Niles Estate (Boston),	400	156	—	90	—	90
North Adams,	1,500	3,000	—	2,000	—	2,000
Northampton,	600	1,525	—	1,075	120	1,195
North Dana,	150	85	74 ⁹	120	—	120
Norton,	— ⁹	—	—	110	—	110
Pittsfield,	2,090	3,000 ¹⁰	—	1,920	300	2,220
Plymouth,	550	1,000	—	720	—	720
Quincy,	1,000	1,690	—	1,250	—	1,250
Randolph,	250	570	—	470	—	470
Salem,	1,750	6,785	—	4,900	200 ³	5,100
Seekonk,	— ¹	—	—	—	—	—
South Hadley Falls,	— ¹¹	100	—	250	—	250
Spencer,	150	100	—	90	—	90
Steam and Power (Boston),	387	375	—	200	—	200
Stockbridge,	— ¹	—	—	—	—	—
Suburban (Revere),	1,208	2,050	—	1,400	—	1,400
Sunderland,	— ¹	—	—	—	—	—
Tyngsborough,	— ⁹	—	—	10	—	10

¹ All current purchased.

² Includes gasoline engine, 18 horse-power.

³ Not in use.

⁴ Steam purchased from street railway.

⁵ Gasoline engine.

⁶ Includes gas engine, 500 horse-power.

⁷ 225 horse-power not in use.

⁸ 75 kilowatts not in use.

⁹ Power purchased.

¹⁰ Includes petroleum engines, 450 horse-power.

¹¹ Steam and water power leased.

TABLE 3. — *Capacity of Boilers, etc.* — Concluded.

COMPANY.	Total Rated Horse- power (Boilers).	Total Rated Horse- power (Engines).	Total Rated Horse- power (Water- wheels).	DYNAMO CAPACITY IN KILOWATTS.		
				Dynamos other than Power Genera- tors.	Power Genera- tors.	Total Dynamo Ca- pacity.
Union (Franklin), . .	350	275	—	250	—	250
United (Springfield), .	7,700	12,570	2,835	12,430	1,990 ¹	14,420
Vineyard (Oak Bluffs), .	450	980 ²	—	597 ³	137	734
Ware,	250	350	—	265	—	265
Webster,	890	2,160	—	880	—	880
Westborough,	100	195	—	150	—	150
Weston,	— ⁴	600	—	535	—	535
Weymouth,	1,194	3,650	400 ⁵	2,375	—	2,375
Williamstown,	— ⁶	—	—	—	—	—
Winchendon,	—	—	350	370 ⁷	—	370
Worcester,	6,600	14,900	—	9,680	500	10,180
Worcester Suburban, .	1,395 ⁸	600 ⁹	—	1,850	555	2,405

¹ 15 kilowatts not in use.² 450 horse-power not in use.³ 300 kilowatts not in use.⁴ Steam supplied by Weston Water Company.⁵ Leased.⁶ All current purchased.⁷ 120 kilowatts not in use.⁸ 275 horse-power not in use.⁹ 350 horse-power not in use.

TABLE 4. — *Line Statistics.*

The following table shows the total length of wire; the length of underground conduit, the length of wire in the same; the number of poles set and the length of streets with overhead wires of each company, on June 30, last: —

COMPANY.	Total Length of Wire (Feet).	Length of Underground Conduit (Feet).	Length of Wires in Conduit (Feet).	Number of Poles set in Streets.	Number of Poles set elsewhere.	Length of Street Overhead Wires (Feet).
Abington and Rockland, .	2,334,667	10,510	10,510	4,271	561	741,892
Adams, .	413,272	—	—	505	204	101,873
Adams, U. S. (Townsend), .	119,633	—	—	288	10	33,958
American Woolen (Maynard), .	485,507	—	—	787	102	122,345
Amesbury, .	455,041	—	—	1,414	30	175,915
Amherst, .	960,775	—	—	2,197	62	218,446
Athol, .	1,349,286	—	—	1,901	81	342,934
Attleborough, .	1,071,988	—	—	1,568	92	265,730
Ayer, .	171,665	—	—	411	6	47,070
Ballou, G. M. (Shirley), .	74,400	—	—	175	3	33,250
Beverly, .	1,888,304	10,341	4,110	3,735	—	449,565
Blackstone, .	269,006	—	—	478	17	73,450
Block Plant (Boston), .	45,053	—	—	—	—	—
Buzzards Bay (Falmouth), .	551,672	—	—	1,283	39	136,065
Cambridge, .	3,892,235	49,751	256,115	3,361	372	313,984
Cape (Provincetown), .	213,208	—	—	268	2	35,891
Central Mass., .	1,260,215	—	—	2,293	103	284,197
Charlemont, .	20,040	—	—	41	—	10,810
Charlestown, .	288,420	8,907	73,429	494	63	37,670
Chester, .	50,340	—	—	62	5	15,000
Citizens' (Nantucket), .	219,163	—	—	746	—	74,600
Clinton, .	750,574	—	—	1,568	36	210,030
Deerfield River (Conway), .	127,040	—	—	131	149	20,535
Easthampton, .	689,153	—	—	835	122	128,320
Edison (Boston), .	41,714,463	1,662,489	10,433,393	36,167	5,451	5,473,369
Edison (Brockton), .	3,898,026	200,050	119,484	6,685	690	1,198,920
Fall River, .	3,224,405	104,652	784,305	4,336	241	547,600
Fitchburg, .	1,487,305	35,743	344,835	2,628	302	282,260
Foxborough, .	429,127	—	—	978	67	116,000
Franklin (Turners Falls), .	396,437	—	¹ 1,325	597	213	69,562
Gardner, .	995,416	—	—	1,424	² 991	189,532
Gloucester, .	1,382,800	28,765	18,600	4,238	312	870,000
Great Barrington, .	884,590	—	—	1,058	349	207,539
Greenfield, .	2,405,552	—	—	3,989	314	596,021
Haverhill, .	1,671,613	17,138	164,039	916	220	335,672
Huntington, .	17,710	245	245	92	2	8,457
Hyde Park, .	976,386	—	—	1,520	112	155,683
Lawrence, .	4,157,074	27,334	103,866	6,587	191	719,473
Lee, .	538,503	—	—	963	67	126,582
Lenox, .	71,269	64,859	71,269	—	—	—
Leominster, .	983,467	—	—	1,509	60	228,674
Loveland, W. O. (Ashby), .	60,610	—	—	176	—	58,080
Lowell, .	4,025,713	34,212	298,977	4,215	89	863,048

¹ Pick proof armored cable.² Also four 50-foot towers.

TABLE 4. — *Line Statistics* — Concluded.

						Length of Street Overhead Wires (Feet).
Ludlow Mfg. Co.,	174,120	-	-	335	156	67,465
Lynn,	6,021,210	141,761	974,200	8,591	257	945,000
Malden,	6,380,656	48,935	409,368	9,144	77	1,222,842
Manchester,	93,287	77,208	92,537	7	10	750
Marion,	728,660	690	1,380	804	-	1 -
Marlborough,	2,466,404	-	-	4,105	433	605,112
Middleton,	39,350	-	-	23	-	13,250
Milford,	437,589	-	-	703	58	88,400
Mill River (Williamsburg),	165,936	-	-	196	21	33,550
Montague,	53,701	-	-	120	16	18,767
Nashua River (E. Pepperell),	54,510	-	-	-	36	30,000
New Bedford,	1,531,734	44,062	210,082	1,895	242	249,126
Newburyport,	380,200	-	-	927	21	199,750
Niles Estate (Boston),	3,088	-	-	-	-	-
North Adams,	986,813	200	200	994	435	162,432
Northampton,	904,420	-	-	2,063	244	205,417
North Dana,	68,400	-	-	13	-	1 -
Norton,	97,640	-	-	250	13	38,900
Pittsfield,	2,329,962	4,567	26,049	3,842	814	453,050
Plymouth,	825,483	-	-	1,538	56	272,005
Quincy,	2,072,000	-	-	3,287	227	480,000
Randolph,	401,424	-	-	1,030	24	151,400
Salem,	1,532,585	24,067	-	2,752	326	286,300
Seekonk,	27,094	-	-	264	-	26,330
South Hadley Falls,	192,974	-	-	111	25	94,212
Spencer,	136,600	-	-	593	15	68,150
Steam and Power (Boston),	-	-	-	-	-	-
Stockbridge,	360,451	37,391	62,616	502	324	64,011
Suburban (Revere),	2,369,976	15,999	64,657	2,620	372	346,372
Sunderland,	107,806	-	-	273	33	36,960
Tyngsboro,	103,745	-	-	288	-	34,475
Union (Franklin),	1,136,947	-	-	1,905	311	160,000
United (Springfield),	4,137,705	444,147	2,094,037	3,461	117	332,634
Vineyard (Oak Bluffs),	469,757	-	-	1,172	259	119,038
Ware,	356,277	-	-	607	171	60,004
Webster,	2,415,268	-	-	4,039	174	404,790
Westborough,	336,186	-	-	676	34	80,820
Weston,	1,021,297	-	-	2,184	206	283,920
Weymouth,	1,413,269	-	-	2,067	174	349,144
Williamstown,	226,234	-	-	311	60	50,015
Winchendon,	346,633	1,759	4,062	711	106	98,912
Worcester,	6,238,105	391,049	4,095,630	7,178	2,395	242,934
Worcester Suburban,	3,025,207	-	-	4,979	720	581,636

1 Not given.

TABLE 5. — Connected Load Statistics.

The following table shows the connected load for all customers, except in the supply to other companies or municipal plants, June 30, 1912:—

COMPANY.	Number of Municipal Aras.	Number of Commercial Aras.	Number of Municipal Incandescent lamps.	Number of Commercial Incandescent lamps.	Total Lighting Load in K. W.	Number of Motors.	Total Power Load in K. W.	Total Lighting and Power Load in K. W.
Abington and Rockland,	—	6	1,383	36,928 ¹	2,100.16	182	804.28	2,904.43
Adams, U. S. (Townsend),	86	—	141	6,290	326.64	32	74.19	400.83
American Woolen (Maynard),	—	—	119	1,502	11.21	—	—	11.21
Amesbury,	13	—	280	—	18.03	27	—	18.03
Amherst,	35	5	368	6,850	336.79	89	670.0	1,006.79
Athol,	32	6	427	—	416.18	—	—	416.18
Attleborough,	—	1	902	16,843	808.93	172	1,493.11	2,302.04
Ayer,	81	113	549	34,349	1,842.02	271	1,667.12	3,509.14
	6	12	143	5,411	267.61	4	7.46	275.07
Ballou, G. M. (Shirley),	—	—	117	1,915	90.34	—	—	90.34
Beverly,	373	45	201	48,758	2,612.83	70	245.43	2,858.26
Blackstone,	30	—	69	2,246 ⁴	125.0	—	—	125.0
Block Plant (Boston),	—	11	—	3,386	168.15	29	81.0	249.15
Buzzards Bay (Falmouth),	—	—	313	3,301	147.62	3	4.0	151.62
Cambridge,	669 ¹	55 ¹	1,375	88,880	4,727.49	1,135	6,044.57	10,772.06
Cape (Provincetown),	—	—	134	4,100	189.70	7	7.0	196.7
Central Mass.,	—	—	908	17,109	885.83	—	1,389.63	2,275.46
Charlestown,	—	—	41	645	33.35	—	—	33.35
Chester,	—	—	29	648	27.9	—	—	27.9
Citizens' (Nantucket),	30	—	122	2,795	153.81	—	—	153.81
Clinton,	44	6	505	8,602	437.96	34	106.18	544.14
Deerfield River (Conway),	—	1	86	1,311	70.25	—	—	70.25
Easthampton,	—	2	525	4,947	243.48	48	1,937.0	2,180.48
Edison (Boston),	—	—	—	—	94,534.0	—	59,049.0	153,583.0
Edison (Brockton),	319	278	2,380	82,314	4,916.12	—	3,429.05	8,345.17

Fall River,	860	367	608	76,935	4,265.0	1,663	3,633.0	7,898.0
Fitchburg,	319	69	1,155	26,314	1,627.0	374	2,157.0	3,784.0
Foxborough,	—	—	298	6,117	354.77	45	250.0	604.77
Franklin,	16	—	184	6,500	325.37	43	194.89	520.26
Gardner,	—	—	521	18,375	949.48	119	859.02	1,808.50
Gloucester,	112	41	1,217	55,000	2,764.53	152	54.81	2,819.34
Great Barrington,	6	4	339	16,625	841.66	103	364.5	1,206.16
Greenfield,	87	26	697	40,439	1,962.59	419	2,781.55	4,744.14
Haverhill,	201	260	95	60,891	3,116.1	715	2,406.0	5,522.1
Huntington,	1	—	29	757	— ³	—	— ³	— ³
Hyde Park,	78	17	611	19,512	1,038.1	26	70.5	1,108.6
Lawrence,	667	165	1,325	64,607	3,526.83	1,604	2,679.55	6,230.62
Lee,	—	—	250	10,150	476.26	3	3.7	479.96
Lenox,	—	—	—	— ³	— ³	—	—	— ³
Leominster,	—	8	1,182	20,009	1,025.32	161	740.28	1,765.6
Loveland, W. O. (Ashby),	—	—	28	200	17.0	—	—	17.0
Lowell,	575	297	6,439	92,726	5,747.25 ⁶	762	5,468.70 ⁶	11,215.95
Ludlow Mfg. Co.,	—	—	301	5,418	286.0	—	44.0	330.0
Lynn,	524	527	1,991	162,052	8,772.7	884	4,548.7	13,321.4
Malden,	524	163	3,128	105,497 ⁷	6,030.2	289	2,324.0	8,354.2
Manchester,	—	—	—	15,701	278.0	10	52.5	330.5
Marion,	—	2	305	3,785	181.8	6	23.5	205.3
Marlborough,	—	8	2,876	47,176	2,423.82	1,751	1,336.62	3,760.44
Middleton,	—	—	—	—	— ³	—	— ³	—
Milford,	17	14	306	9,590	479.48	49	104.81	584.29
Mill River (Williamsburg),	—	—	88	3,095	156.77	16	85.04	241.81
Montague,	—	—	41	1,240	63.07	—	.5	63.57

¹ Includes 415 electric flat-irons.² Unknown.³ Not given.⁴ Includes 134 miscellaneous devices in 50 watt equivalents.⁵ Includes 572.653 kilowatts in fans and heating apparatus. .⁶ Includes 400 kilowatts supplied for street railway.⁷ Includes 814 electric flat-irons.

TABLE 5. — Connected Load Statistics — Concluded.

COMPANY.	Number of Municipal Areas.	Number of Commercial Areas.	Number of Municipal Incandescent lights.	Number of Commercial Incandescent lights.	Total Lighting Load in K. W.	Number of Motors.	Total Power Load in K. W.	Total Lighting and Power Load in K. W.
Naahua River (East Pepperell),	.	.	.	.	.	.	.	.
New Bedford,	433	394	219	67,162	3,747.57	361	1,522.59	5,270.16
Newburyport,	175	9	41	9,463	549.11	80	410.3	959.41
Niles Estate (Boston),	.	9	.	1,381	70.94	5	7.5	78.44
North Adams,	229	3	72	25,687	1,312.63	269	1,765.5	3,078.13
Northampton,	118	36	518	29,943	1,511.96	495	710.44	2,222.40
North Dana,	.	.	40	750	35.1	.	.	35.1
Norton,	.	.	.	960	42.95	6	1.75	44.7
Pittsfield,	144	98	1,179	56,863	2,758.39	407	2,800.0	5,558.39
Plymouth,	.	3	529	27,160	1,380.3	795	795.0	2,175.3
Quincy,	187	25	945	47,152	2,416.7	101	1,013.0	3,429.7
Randolph,	22	.	262	5,939	316.95	28	203.0	519.95
Salem,	259	237	794	70,123	3,724.17	590	3,404.73	7,132.74
Seakonk,	.	.	.	459	22.7	3	9.7	32.4
South Hadley Falls,	.	.	474	6,142	292.0	21	41.0	333.0
Spencer,	24	9	236	1,437	89.3	.	.	89.3
Steam and Power (Boston),	.	.	.	.	.	.	.	.
Stockbridge,	.	.	175	4,311	220.0	21	73.0	293.0
Suburban (Revere),	202	192	650	75,142	3,945.54	111	630.0	4,575.54
Sunderland,	.	.	21	.	1.05	.	.	1.05
Tyngsborough,	.	.	63	760	39.17	.	.	39.17
Union (Franklin),	.	.	456	9,000	515.3	31	275.6	790.9
United (Springfield),	1,313	314	1,544	177,080	9,613.0	1,319	7,705.0	17,218.0

TABLE 6. — Fuel Statistics.

The following table shows the quantities of coal (in long tons) and other materials used by the several companies during the year of the returns: —

COMPANY.	Coal used (Tons).	Screen- ings (Tons).	Wood (Cords).	Coke (Tons).	Number of Carbons used.
Abington and Rockland, .	1 —	—	—	—	131
Adams,	1 —	—	—	—	1,700
Adams, U. S. (Townsend), .	—	—	2 85½	—	—
American Woolen (Maynard), .	3 —	—	—	—	—
Amesbury,	1,237 ⁸ / ₁₀	631 ⁷ / ₁₀	—	—	1,189
Amherst,	80	—	—	—	1,536
Athol,	1,141 ³ / ₁₀	—	—	—	737
Attleborough,	5,336	—	—	—	3,511
Ayer,	643 ⁵ / ₁₀	—	—	—	391
Ballou, G. M. (Shirley), . .	112	—	—	—	—
Beverly,	4,481	—	—	732	15,000
Blackstone,	1 —	—	—	—	569
Block Plant (Boston), . . .	2,853 ⁴ / ₁₀	—	—	—	299
Bridges, J. B. & Co. (So. Deerfield),	1 —	—	—	—	—
Buzzards Bay (Falmouth), .	577	—	—	—	—
Cambridge,	15,154	—	—	—	26,411
Cape (Provincetown), . . .	6 —	—	—	—	—
Central Mass.,	6,139	—	—	—	7,842
Charlemont,	7 —	—	—	—	—
Charlestown,	1 —	—	—	—	—
Chester,	8 —	—	—	—	—
Citizens' (Nantucket), . . .	502	—	—	—	1,000
Clinton,	1,489	—	—	—	2,859
Deerfield River (Conway), .	1 —	—	—	—	—
Easthampton,	720 ³ / ₁₀	—	—	31 ¹ / ₁₀	980
Edison (Boston),	141,668	—	—	—	418,486
Edison (Brockton),	13,038 ¹ / ₁₀	—	—	—	37,428
Fall River,	9,669 ⁴ / ₁₀	—	—	—	22,934
Fitchburg,	6,089 ⁸ / ₁₀	—	—	458 ⁴ / ₁₀	13,525
Foxborough,	1,338 ¹ / ₁₀	—	—	—	—
Franklin,	1 —	—	—	—	900
Gardner,	9 —	—	—	—	—
Gloucester,	2,746	196	—	—	—
Great Barrington,	23½	—	—	—	50
Greenfield,	1,224 ² / ₁₀	—	—	—	1,592
Haverhill,	7,065 ⁴ / ₁₀	—	—	—	31,742
Huntington,	10 —	—	—	—	40
Hyde Park,	5,538	—	—	—	2,647
Lawrence,	3,372	—	—	11 803 ⁴ / ₁₀	41,439
Lee,	529	—	—	—	—
Lenox,	1 —	—	—	—	—
Leominster,	2,635	—	—	—	1,665
Loveland, W. O. (Ashby), .	12 —	—	—	—	—

1 Current bought.

2 Also 225 cords sawdust and shavings.

3 Steam supplied from mill boilers.

4 Also waste wood, sawdust and shavings valued at \$831.91.

5 Also waste wood.

6 27,670 gallons fuel oil.

7 Water power only.

8 2,255 gallons gasoline.

9 24,996 gallons fuel oil.

10 Water power leased.

11 Also 275³/₁₀ tons coke dust.

12 525 gallons gasoline.

TABLE 6. — *Fuel Statistics* — Concluded.

COMPANY.	Coal used (Tons).	Screen- ings (Tons).	Wood (Cords).	Coke (Tons).	Number of Carbons used.
Lowell,	14,544	—	—	—	48,302
Ludlow Mfg. Co.,	1 —	—	—	—	—
Lynn,	13,548	—	—	—	37,205
Malden,	8,292 ¹ ₁₀	—	—	—	23,738
Manchester,	1 —	—	—	—	—
Marion,	1 —	—	—	—	—
Marlborough,	208 ² ₁₀	117 ² ₁₀	—	—	—
Middleton,	1 —	—	—	—	—
Milford,	1 —	—	—	—	757
Mill River (Williamsburg),	1 —	—	—	—	—
Montague,	2 —	—	—	—	—
Nashua River (E. Pepperell),	3 —	—	—	—	—
New Bedford,	7,722 ³ ₁₀	—	—	564 ³ ₁₀	19,908
Newburyport,	2,599 ³ ₁₀	—	—	73 ³ ₁₀	5,500
Niles Estate (Boston),	572 ³ ₁₀	—	—	—	—
North Adams,	7,443	25	—	—	4,758
Northampton,	3,749	—	—	—	4,128
North Dana,	4 —	—	—	—	—
Norton,	5 —	—	—	—	—
Pittsfield,	10,974 ³ ₁₀	—	—	—	8,288
Plymouth,	2,653	—	—	—	500
Quincy,	2,808	910	—	—	8,677
Randolph,	1,074 ³ ₁₀	56	—	—	—
Salem,	7,769	—	—	—	22,805
Seekonk,	1 —	—	—	—	—
South Hadley Falls,	5 —	—	—	—	—
Spencer,	399	—	—	—	628
Stockbridge,	1 —	—	—	—	—
Suburban (Revere),	3,916	161	—	—	10,967
Sunderland,	1 —	—	—	—	—
Tyngsboro,	4 —	—	—	—	—
Union (Franklin),	52	—	—	—	—
United (Springfield),	16,196	—	—	—	56,740
Vineyard (Oak Bluffs),	897	—	—	—	—
Ware,	959 ³ ₁₀	—	—	—	2,004
Webster,	3,766	—	—	—	8,823
Weston,	5 —	—	—	—	—
Weymouth,	4,088	259	—	—	570
Williamstown,	1 —	—	—	—	498
Winchendon,	4 —	—	—	—	350
Worcester,	19,653	—	—	—	42,088
Worcester Suburban,	7,330 ³ ₁₀	—	—	—	—

¹ Current bought.² 340 gallons gasoline, also water power.³ Current supplied from mill dynamos.⁴ Water power only.⁵ Power leased.⁶ Also 3,354 gallons fuel oil.

TABLE 7. — *Electric Current generated and sold.*

The following table shows the total kilowatt hours generated, the kilowatt hours generated for street lights and the kilowatt hours sold to commercial customers and others, as taken from the returns of the several companies for the year ending June 30, 1912:—

COMPANY.	Total K. W. H. gen- erated.	K. W. H. gen- erated for Street Lights.	K. W. H. sold to Com- mercial Lighting Cus- tomers.	K. W. H. sold to Power Cus- tomers.	K. W. H. sold to Street Rail- ways.	K. W. H. sold to Other Com- panies.
Abington and Rockland, .	2,183,500	134,711	424,408	947,707	-	-
Adams, .	455,205	154,720	161,874	22,334	-	-
Adams, U. S. (Townsend), .	1 -	1 -	476,665	-	-	-
American Woolen (Maynard), .	162,200	44,378	98,978	1,020	-	-
Amesbury, .	1,209,960	81,780	122,288	746,159	-	-
Amherst, .	536,500	75,454	205,798	65,363	-	41,664
Athol, .	1,789,580	198,561	269,428	529,127	496,310	-
Attleborough, .	3,144,009	187,165	495,342	1,719,162	-	-
Ayer, .	141,300	17,742	53,840	1,779	-	35,970
Ballou, G. M. (Shirley), .	41,000	15,900	19,600	-	-	-
Beverly, .	1,945,556	595,505	633,611	159,387	-	240,800
Blackstone, .	100,172	50,987	23,619	-	-	-
Block Plant (Boston), .	586,985	-	297,270	36,230	-	-
Bridges, J. B., & Co. (South Deerfield), .	* 10,000	1,240	7,065	85	-	-
Buzzards Bay (Falmouth), .	120,238	27,333	71,124	1,600	-	-
Cambridge, .	11,929,427	1,332,024	2,312,057	6,132,177	-	307,704
Cape (Provincetown), .	1 -	1 -	34,600	-	-	-
Central Mass., .	3,839,666	100,000	194,402	-	3,421,013	-
Charlemont, .	1 -	7,668	10,096	-	-	-
Charlestown, .	1,772,756	619,206	354,228	375,587	-	-
Chester, .	1 -	1 -	11,829	-	-	-
Citizens' (Nantucket), .	78,000	30,975	41,873	-	-	-
Clinton, .	494,380	206,741	157,386	60,420	-	-
Colrain, .	* 4,484	807	2,171	337	-	-
Deerfield River (Conway), .	* 99,016	-	99,016	-	-	-
Easthampton, .	2,855,528	85,746	67,926	2,284,895	-	53,900
Edison (Boston), .	150,978,350	16,579,276	58,802,070	20,097,661	8,149,659	3,749,257
Edison (Brockton), .	10,010,200	976,081	1,878,557	2,548,444	-	2,183,500
Fall River, .	7,293,783	1,340,396	1,877,502	2,055,979	-	161,268
Fitchburg, .	4,786,900	795,300	682,735	1,720,362	-	577,000
Foxborough, .	300,657	26,991	59,851	180,951	-	-
Franklin, .	346,580	75,870	98,597	34,809	-	60,970
Gardner, .	2,156,446	90,771	325,989	1,169,870	-	139,011
Gloucester, .	1,331,139	267,300	473,652	142,480	-	-
Great Barrington, .	840,165	53,540	196,690	258,546	-	101,789
Greenfield, .	6,988,925	240,784	562,838	1,735,867	3,035,490	58,818
Haverhill, .	5,199,370	188,706	1,198,342	2,493,846	-	3,962
Huntington, .	1 -	1 -	8,938	-	-	-
Hyde Park, .	3,427,742	204,241	255,784	10,964	2,766,742	-
Lawrence, .	5,936,100	1,339,069	1,572,804	1,314,413	-	-
Lee, .	199,121	19,195	121,815	-	-	-
Lenox, .	95,427	-	95,427	-	-	-
Leominster, .	1,267,230	186,234	234,411	638,487	-	-
Loveland, W. O. (Ashby), .	1 -	1 -	9,820	-	-	-
Lowell, .	10,770,866	1,514,187	2,264,165	3,770,914	662,000	-
Ludlow Mfg. Co., .	230,911	66,566	77,791	11,758	-	-
Lynn, .	10,462,360	1,305,700	3,298,906	3,531,452	-	-
Malden, .	6,574,966	1,430,475	1,592,983	1,434,877	-	262,213
Manchester, .	240,800	-	178,978	6,340	-	-
Marion, .	209,892	21,198	76,226	3,019	-	-
Marlborough, .	2,260,320	229,654	482,269	839,316	-	96,590

¹ No record.

² For five months only.

³ For two months only.

⁴ Estimated.

TABLE 7. — *Electric Current generated and sold* — Concluded.

COMPANY.	Total K. W. H. gen- erated.	K. W. H. gen- erated for Street Lights.	K. W. H. sold to Com- mercial Lighting Cus- tomers.	K. W. H. sold to Power Cus- tomers.	K. W. H. sold to Street Rail- ways.	K. W. H. sold to Other Com- panies.
Middleton,	3,821	—	1,962	—	—	—
Milford,	385,634	80,418	159,287	36,230	—	—
Mill River (Williamsburg), . .	160,910	18,483	23,446	99,208	—	—
Montague,	1—	1—	9,265	—	—	—
Nashua River (E. Pepperell), .	50,643	10,813	28,143	—	—	—
New Bedford,	3,560,130	593,287	1,609,854	776,346	—	—
Newburyport,	1,268,626	307,718	186,289	513,458	—	—
Niles Estate (Boston),	150,246	—	114,693	4,306	—	—
North Adams,	4,792,810	316,889	824,542	2,099,115	—	802,141
Northampton,	1,990,740	270,780	606,429	624,068	—	160,910
North Dana,	1—	1—	—	—	—	—
Norton,	10,863	—	7,583	765	—	—
Pittsfield,	4,329,990	590,367	1,329,805	1,609,801	—	—
Plymouth,	1,456,190	104,779	477,869	576,875	—	—
Quincy,	2,165,163	527,298	546,484	315,884	—	—
Randolph,	366,544	43,700	181,856	86,389	—	—
Salem,	5,631,280	770,694	1,101,575	2,486,956	—	1,400
Seekonk,	1,349	—	628	721	—	—
Shelburne Falls,	¹ 26,618	4,675	7,001	1,706	—	4,484
South Hadley Falls,	1—	—	—	—	—	—
Spencer,	52,874	33,639	14,174	—	—	—
Stockbridge,	122,630	16,094	45,171	21,532	—	—
Suburban (Revere),	2,706,280	475,620	1,080,347	285,489	—	—
Sunderland,	41,664	2,838	5,436	—	—	22,435
Tyngsboro,	1—	5,662	4,536	—	—	—
Union (Franklin),	703,200	51,679	94,062	281,442	—	69,772
United (Springfield),	21,077,452	3,228,883	5,536,423	5,810,818	—	—
Vineyard (Oak Bluffs),	175,742	31,400	115,467	1,575	—	—
Ware,	297,609	95,810	114,114	7,140	—	—
Webster,	2,645,300	429,963	395,854	899,455	—	—
Weston,	371,786	77,808	171,587	—	—	—
Weymouth,	1,704,801	71,549	221,927	511,218	—	594,349
Williamstown,	339,770	53,389	173,259	6,060	—	—
Winchendon,	390,014	51,021	267,828	—	—	—
Worcester,	15,978,450	1,692,594	3,769,014	6,618,605	—	303
Worcester Suburban,	2,968,236	128,798	304,342	951,654	827,700	—

¹ No record.² For two months only.

TABLE 8. — *Amount of Electric Current sold to Other Companies and Municipalities for Years ending June 30, 1911 and 1912.*

SELLING COMPANY.	Buying Company.	Number of K. W. H. 1911.	Number of K. W. H. 1912.	Amount re- ceived. 1912.
Amherst,	Amherst Power,	42,600	-	-
Amherst Power,	Sunderland,	41,660	41,664	\$1,666.56
Ayer,	Amherst,	501,100	536,500	9,332.09
	Easthampton,	1,474,664	2,585,600	16,567.74
	Town of Groton,	27,870	35,970	2,013.60
Berkshire,	Pittsfield,	115,600	114,400	1,487.20
Beverly,	Manchester,	227,689	240,800	10,836.00
Boston & Northern Street Railway,	Haverhill,	38,866	-	-
Brockton & Plymouth Street Railway,	Plymouth,	12,180	1,220	30.50
Cambridge,	Town of Belmont,	266,817	307,704	11,284.35
Conway Street Railway,	Deerfield River,	100,570	99,016	1,400.00
	Fitchburg,	505,000	1,090,400	5,452.00
	Gardner,	2,037,148	2,156,446	26,030.63
Connecticut River,	Marlborough,	2,313,850	2,251,450	24,270.32
	Worcester,	8,792	-	-
	Town of Holden,	-	10,912	272.79
	Town of West Boylston,	31,680	44,369	1,109.24
Dalton Power,	Pittsfield,	78,800	129,600	2,203.20
Danvers, town of,	Middleton,	59	3,821	229.26
Easthampton,	Amherst Power,	5,900	53,150	1,088.50
	Cambridge,	4,059	8,035	430.49
	Charlestown,	1,483,538	1,804,793	27,595.19
Edison (Boston),	Hyde Park,	-	157,777	3,729.70
	Union (Franklin),	540	644	118.55
	Weston,	-	120,868	3,554.63
	Town of Norwood,	664,950	1,136,000	22,645.30
Edison (Brockton),	Town of Wellesley,	501,810	521,140	14,473.80
	Abington and Rockland,	1,934,300	2,183,500	32,812.50
Fall River,	Tiverton,	-	161,268	3,225.36
Fitchburg,	Connecticut River,	505,000	577,000	5,770.00
Franklin (Turners Falls),	Millers Falls Water Supply Dis- trict,	54,010	60,970	1,838.12
Gardner,	Town of Ashburnham,	61,200	56,160	2,246.40
Great Barrington,	Town of Templeton,	73,300	82,851	2,846.07
Greenfield,	Stockbridge,	98,973	101,780	3,053.38
	Shelburne Falls,	117,743	26,618	796.54
	Turners Falls,	16,400	32,200	650.00
Haverhill,	Town of Groveland,	67,890	80,462	2,816.17
Haverhill & Southern New Hampshire Street Railway,	Plaistow,	-	3,500	175.00
Hull, town of,	Amesbury,	26,142	29,241	1,023.74
Ipswich, town of,	Town of Hingham,	909	-	-
Ludlow Mfg. Associates,	Town of Rowley,	18,450	27,130	1,627.80
Lynn,	Ludlow Mfg. Co.,	-	115,004	3,800.01
	Suburban (Revere),	244,023	-	-
	Town of Marblehead,	25,600	-	-
Malden,	Edison (Boston),	12,507	441	62.00
Mansfield, town of,	Suburban (Revere),	114,156	261,772	3,546.46
Marlborough,	Foxborough,	5,295	9,249	867.45
	Connecticut River,	9,280	8,820	208.89
	Westborough,	72,686	-	-
Milford & Uxbridge Street Railway,	Town of Shrewsbury,	84,639	87,770	4,388.50
Millbury,	Milford,	326,440	385,634	13,383.96
Monument Mills,	Worcester Suburban,	2,468	-	-
	Great Barrington,	98,974	20,851	521.28
Narragansett,	Seekonk,	-	1,349	130.26
New Bedford & Onset Street Railway,	Marion,	120,559	209,893	7,366.55

TABLE 8. — *Amount of Electric Current sold to Other Companies, etc.*
— Concluded.

SELLING COMPANY.	Buying Company.	Number of K. W. H. 1911.	Number of K. W. H. 1912.	Amount re- ceived, 1912.
North Adams,	Adams,	422,216	455,196	\$7,539.36
Northampton,	Stamford,	-	7,175	179.36
	Williamstown,	279,712	339,770	5,586.62
	Mill River (Williamsburg),	110,480	160,910	2,413.65
Pawtucket,	Attleborough,	-	319	19.14
Reading, town of,	Town of Wakefield,	106,863	148,849	3,899.63
Salem,	Town of Peabody,	-	1,400	28.00
Shelburne Falls,	Colrain,	13,644	4,484	179.36
Sunderland,	J. B. Bridges & Co. (South Deerfield),	28,460	10,000	650.00
	Greenfield,	-	12,435	808.28
Turners Falls,	Franklin,	319,810	346,580	8,710.71
Union (Franklin),	Greenfield,	2,700,430	2,389,040	11,945.20
Uxbridge & Northbridge,	Foxborough,	-	69,772	1,601.49
	Douglas,	26,620	-	-
	Millbury,	74,287	-	-
	Upton,	12,577	-	-
	Worcester Suburban,	71,021	-	-
Wanooanoc,	Fitchburg,	-	17,150	19.17
Westinghouse,	Lenox,	98,652	95,427	9,542.75
Weymouth,	Town of Hingham,	371,196	342,264	13,256.29
	Town of Hull,	-	124,395	2,487.90
	Randolph & Holbrook,	-	119,800	4,459.40
Whitin Machine Works,	Worcester Suburban,	-	970	58.00
Woonsocket Electric,	Blackstone,	93,060	3,699,600	2,589.72
Worcester,	Union (Franklin),	419,104	694,565	13,744.07
	Worcester Suburban,	-	303	33.21

Malden,	8	4,928	22	85	196	{ 149 10 2 12 7	6 6.6 6.6 10 12	450 430 500 500 600	{ 93,506 15,701 1,715 45,712 - ¹	11,077	-	-	6	698
Manchester,	-	372	-	6	4	-	-	-	15,701	-	-	-	-	- 2
Marion,	-	227	-	6	5	-	-	2,000	1,715	1,944	-	-	-	- 8
Marlborough,	-	1,372	8	11	106	{ 2 2 6	6 10 10	475 550	45,712	1,453	11	-	-	- 31
Middleton,	-	13	-	-	1	-	-	-	- ¹	- ¹	-	-	-	- -
Milford,	-	404	6	9	23	14	6.6	425	7,046	2,544	-	-	-	- 31
Mill River (Williamsburg),	-	124	-	-	4	-	-	-	2,945	150	-	-	-	- -
Montague,	-	51	-	-	3	-	-	-	1,140	100	-	-	-	- -
Nashua River (E. Pepperell),	-	124	-	-	-	-	-	-	- ¹	- ¹	-	-	-	- -
Niles Estate (Boston),	-	60	-	-	3	{ 5 4 3	3 7 4	330 770 325	1,097	284	-	4	2	3
North Adams,	-	1,546	1	7	68	{ 28 2 6	6 10 30	425 2,000 3,300	20,685	5,002	-	-	-	232
Northampton,	-	746	5	20	299	{ 2 6	10 30	-	20,639	9,304	-	-	6	146
North Dana,	-	25	-	-	-	-	-	-	350	400	-	-	-	- -
Norton,	-	45	-	-	6	-	-	-	455	505	-	-	-	- -
Pittsfield,	-	2,125	17	40	198	{ 71 27	6 12	450 600	28,756	27,972	135	-	-	242
Plymouth,	-	818	1	32	69	{ 2 1	4 6	350 450	27,160	-	-	-	-	3
Quincy,	-	2,557	3	39	46	11	6.6	350	40,376	6,916	-	-	-	212
Randolph,	-	338	-	1	14	-	-	-	5,939	-	-	-	-	22
Salem,	15	2,651	50	63	207	{ 94 138 10	4 6 10	310 450 500	60,616	9,308	201	-	-	503
Seekonk,	-	17	-	-	1	-	-	-	441	18	-	-	-	- -
South Hadley Falls,	-	287	-	21	3	-	-	-	5,954	188	-	-	-	- -
Spencer,	-	40	5	-	-	9	-	400	922	515	-	-	-	33
Stockbridge,	-	136	-	-	10	-	-	-	4,061	250	-	-	-	-

1 No record.

TABLE 9. — Statistics of Lights and Customers — Concluded.

COMPANY.	Number of Customers using Commercial Are Lights only.			Number of Customers using Commercial Incandescent Lights only.			Number of Customers using both Arc and Incandescent Lights but no Power.			Number of Customers using Electric Power only.			Number of Customers using both Light and Power.			COMMERCIAL AREA.			Number of Commercial Incandescent Carbon Lamps in 50 Watt Units.	Number of Commercial Incandescent Tungsten Lamps in 40 Watt Units.	Number of Normal Lamps.	Number of Single Arc Lamps.	Number of Double Arc Lamps.	Number of Enclosed Are Lamps.
	Number.	Amperes.	Watts.	Number.	Amperes.	Watts.	Number.	Amperes.	Watts.	Number.	Amperes.	Watts.	Number.	Amperes.	Watts.									
Suburban (Revere),	13		3,335	12	6	47			2	4	310								71,366	3,776	-	-	-	412
Sunderland,	-		28	-	-	7	-	-	62	6	450	-	-	-	-	-	-	-			-	-	-	-
Tyngsboro,	-		25	-	1	4	-	6	82	6	600	-	-	-	-	-	-	-	625	135	-	-	-	-
Union (Franklin),	-		389	-	-	16	-	92	59	6.6	430	-	-	-	-	-	-	-	7,500	1,500	-	-	-	-
United (Springfield),	-		5,526	-	-	285	-	285	314	-	500	-	-	-	-	-	-	-	167,080	10,000	-	-	-	-
Vineyard (Oak Bluffs),	-		413	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	559	3,469	-	-	-	-
Ware,	-		293	-	-	9	-	5	-	-	-	-	-	-	-	-	-	-	3,021	160	-	-	-	-
Webster,	2		1,151	6	10	63	-	10	15	6.6	475	-	-	-	-	-	-	-	18,247	-	-	-	-	-
Westborough,	-		-	-	-	-	-	-	4	12	550	-	-	-	-	-	-	-	-	-	-	-	-	-
Weston,	-		260	-	1	51	-	1	-	-	-	-	-	-	-	-	-	-	12,000	500	-	-	-	-
Weymouth,	-		863	-	1	28	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Williamstown,	-		287	-	4	3	-	4	-	-	-	-	-	-	-	-	-	-	3,242	1,655	-	-	-	-
Winchendon,	-		221	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	5,312	910	-	-	-	-
Worcester,	-		3,751	1	165	290	-	165	186	6	600	-	-	-	-	-	-	-	132,849	35,482	-	-	-	-
Worcester Suburban,	-		1,272	1	55	-	-	55	33	6.6	525	-	-	-	-	-	-	-	24,368	1,170	-	-	-	-
									3	4	400													

1 No record.

1 Plant leased; operated by Marlborough Electric Company.

APPENDIX F.—MUNICIPAL PLANT STATISTICS.

TABLE 1. — *Description of Steam and Electric Equipment.*

The following table of data from the several returns is descriptive of the generating equipment at the stations in the municipalities named on June 30, 1912: —

MUNICIPALITY.	BOILERS.		ENGINES.		DYNAMOS.	
	No.	Total Rated H. P.	No.	Total Rated H. P.	No.	Total K. W. Capacity.
Ashburnham, ¹	—	—	—	—	—	—
Belmont, ¹	—	—	—	—	—	—
Braintree, . . .	3	375	3	625	3	515 ²
Chicopee, . . .	4	540	2	750	6	1,115
Concord, . . .	3	270	3	925	3	608
Danvers, . . .	3	375	5	1,285	6	1,061
Groton, ¹	—	—	—	—	—	—
Groveland, ¹	—	—	—	—	—	—
Hingham, ¹	—	—	—	—	—	—
Holden, ¹	—	—	—	—	—	—
Holyoke, . . .	14	5,000	3	7,996 ³	6	6,800
Hudson, . . .	3	330	3	685	3	450
Hull, . . .	3	500	4	895	4	915
Ipswich, . . .	3	282	3	660	3	380
Mansfield, . . .	—	—	4	680	4	500
Marblehead, . . .	4	550	4	700	4	600
Merrimac, . . .	—	—	2	272	2	195
Middleborough, . . .	1	25	1 ⁴	150 ⁵	2	350
Millers Falls, . . .	—	—	1 ⁶	52	1 ⁶	65
North Attleborough, . . .	3	750	4	852	4	610
Norwood, ¹	—	—	—	—	—	—
Peabody, . . .	3	657	3	1,350	3	975
Reading, . . .	3	375	3	630	3	500
Rowley, ¹	—	—	—	—	—	—
Shrewsbury, ¹	—	—	—	—	—	—
Sterling, ¹	—	—	—	—	—	—
Taunton, . . .	4	1,200	3	3,550	5 ⁷	2,380
Templeton, ¹	—	—	—	—	—	—
Wakefield, . . .	2	250	2	250	2	180
Wellesley, ¹	—	—	—	—	—	—
West Boylston, ¹	—	—	—	—	—	—
Westfield, . . .	3	400	3	1,360	3	1,140

¹ No generating equipment; all current purchased.

² 175 K. W. not in use.

³ Also 4 water wheels 1,120 H. P.

⁴ Also 2 water wheels 125 H. P. and 3 gas engines 278 H. P.

⁵ 150 H. P. not in use.

⁶ Not in use; current purchased.

⁷ Also 2 power generators 162 K. W.

TABLE 2. — *Street Lines Equipment.*

The following data from the several returns are descriptive of the outside electric construction on June 30, 1912, in each of the municipalities:—

MUNICIPALITY.	Total Length of Wire (Feet).	Number of Poles set in Streets.	Number of Poles set Elsewhere.	Length of Streets with Overhead Wires (Feet).
Ashburnham,	142,220	467	12	79,000
Belmont,	548,963	1,240	95	144,847
Braintree,	697,718	1,551	44	150,000
Chicopee,	821,151	876	135	207,070
Concord,	1,058,765	1,821	8	248,770
Danvers,	737,569	1,178	90	225,730
Groton,	230,040	612	4	100,690
Groveland,	264,430	387	10	86,510
Hingham,	960,242	1,720	9	194,173
Holden,	257,345	442	16	47,520
Holyoke,	1,393,510	2,300	265	227,332
Hudson,	599,047	904	42	137,650
Hull,	736,761	1,354	52	128,971
Ipswich,	464,624	992	22	120,532
Mansfield,	392,180	447	—	116,400
Marblehead,	724,976	1,099	146	172,975
Merrimac,	226,280	430	—	50,640
Middleborough,	319,704	132	12	118,610
Millers Falls,	86,950	262	—	22,000
North Attleborough,	775,769	1,413	84	142,300
Norwood,	728,326	1,597	25	182,790
Peabody,	1,112,000	990	208	207,820
Reading,	1,134,039	2,726	70	263,503
Rowley,	192,321	455	—	41,917
Shrewsbury,	494,000	1,380	50	132,595
Sterling,	59,951	208	—	22,480
Taunton,	1,204,821	1,991	25	518,621
Templeton,	316,273	820	15	83,882
Wakefield,	606,975	1,047	—	186,951
Wellesley,	852,100	1,826	38	203,370
West Boylston,	287,680	739	11	73,360
Westfield,	355,470	827	77	117,479

TABLE 3. — *Electric Fuel Statistics.*

The following table shows the kind and quantity of fuel and number of carbons used during the year ending June 30, 1912, as shown by the several returns: —

MUNICIPALITY.	Coal (Tons).	Screenings (Tons).	Number of Carbons used.
Ashburnham,	— ¹	—	—
Belmont,	— ¹	—	210
Braintree,	477.0	927.9	—
Chicopee,	4,591.0	—	8,600
Concord,	1,967.0	—	—
Danvers,	2,349.7	140.0	4,479
Groton,	— ¹	—	—
Groveland,	— ¹	—	—
Hingham,	— ¹	—	85
Holden,	— ¹	—	—
Holyoke,	15,330.0 ²	—	26,000
Hudson,	1,057.0	—	510
Hull,	603.9	514.9	—
Ipswich,	1,161.7	—	—
Mansfield,	— ³	—	—
Marblehead,	2,147.6	—	2,846
Merrimac,	729.0	143.0	—
Middleborough,	464.4	—	1,066
Millers Falls,	— ¹	—	50
North Attleborough,	1,686.0	—	—
Norwood,	— ¹	—	6
Peabody,	2,996.7	—	8,000
Reading,	1,542.3	304.0	2,578
Rowley,	— ¹	—	—
Shrewsbury,	— ¹	—	—
Sterling,	— ¹	—	—
Taunton,	4,084.4	—	12,566
Templeton,	— ¹	—	—
Wakefield,	683.6 ⁴	—	1,229
Wellesley,	— ¹	—	12
West Boylston,	— ¹	—	—
Westfield,	3,431.2 ⁵	—	10,000

¹ Current bought.² Also used water power.³ 59,357 gallons fuel oil.⁴ Also 574½ tons coke.⁵ Also 515 tons coke.

TABLE 4. — *Electric Current generated and sold.*

The following table shows the total kilowatt hours generated, the kilowatt hours generated for street lights and the kilowatt hours sold to commercial customers, as taken from the returns of the several plants for the year ending June 30, 1912: —

MUNICIPALITY.	Total K. W. Hours generated.	Generated for Street Lights.	K. W. Hours sold to Commercial Customers.
Ashburnham,	56,162	8,682	33,868
Belmont,	307,204	71,159	139,066
Braintree,	437,690	120,460	234,859
Chicopee,	1,277,672	371,297	704,105
Concord,	655,250	162,650	341,074
Danvers,	1,182,278	246,838	671,281
Groton,	35,970	17,084	12,663
Groveland,	78,560	40,016	18,268
Hingham,	342,264	83,414	201,891
Holden,	10,912	5,201	2,746
Holyoke,	11,807,380	943,500	9,327,330
Hudson,	498,546	63,806	306,526
Hull,	463,753	36,832	260,185
Ipswich,	437,893	287,200	105,753
Mansfield,	653,710	97,523	205,693
Marblehead,	822,692	281,957	364,570
Merrimac,	222,055	34,055	161,276
Middleborough,	364,681	36,532	207,347
Millers Falls,	61,271	10,702	24,831
North Attleborough,	387,300	85,210	228,357
Norwood,	1,136,000	77,664	895,819
Peabody,	1,515,620	314,300	1,011,605
Reading,	855,884	255,836	405,282
Rowley,	24,150	11,240	8,298
Shrewsbury,	88,170	23,950	37,830
Sterling,	17,672	6,240	5,806
Taunton,	2,814,800	666,868	1,483,187
Templeton,	82,851	21,651	39,302
Wakefield,	288,186	69,965	144,419
Wellesley,	531,140	132,290	286,142
West Boylston,	44,369	21,294	10,711
Westfield,	1,243,500	377,600	613,205

TABLE 5. — *Connected Load Statistics.*

The following table shows the connected load for all customers, June 30, 1912: —

MUNICIPALITY.	Number of Municipal Ares.	Number of Com- mercial Ares.	Number of Municipal Incandescents.	Number of Commercial Incandescents.	Total Lighting Load in K. W.	Number of Motors.	Total Power Load in K. W.	Total Lighting and Power Load in K. W.
Ashburnham,	—	—	120	2,000	89.8	—	12.68	102.49
Belmont,	2	—	748	17,280	895.11	8	30.0	925.11
Braintree,	—	—	648	— ¹	— ²	—	—	— ²
Chicopee,	241	7	100	— ¹	— ²	— ¹	471.0	— ²
Concord,	—	—	1,182	16,896	892.1	19	54.6	946.7
Danvers,	68	4	1,469	18,300	986.58	42	500.0	1,486.58
Groton,	—	—	400	2,150	111.35	—	—	111.35
Groveland,	—	—	471	2,300	132.83	— ¹	6.0	138.83
Hingham,	—	—	809	15,075	787.29	27	80.01	867.30
Holden,	—	—	147	1,110	50.2	—	—	50.2
Holyoke,	471	334	821	91,570	4,651.33	799	4,807.50	9,458.83
Hudson,	10	—	462	10,004	524.0	— ¹	184.0	708.0
Hull,	—	3	776	25,029	1,283.24	30	80.33	1,363.57
Ipswich,	—	—	995	— ¹	— ²	—	—	— ²
Mansfield,	—	—	584	— ¹	— ²	32	279.0	— ²
Marblehead,	168	8	382	— ¹	— ²	67	263.7	— ²
Merrimac,	—	—	383	1,622	99.05	—	—	99.05
Middleborough,	25	13	212	9,000	567.49	45	127.1	694.59
Millers Falls,	3.	—	88	— ¹	— ²	—	—	— ²

¹ No record.

² Incomplete.

TABLE 5. — Connected Load Statistics — Concluded.

MUNICIPALITY.	Number of Municipal Aros.	Number of Com- mercial Aros.	Number of Municipal Incan- descents.	Number of Commercial In- candescents.	Total Lighting Load in K. W.	Number of Motors.	Total Power Load in K. W.	Total Lighting and Power Load in K. W.
North Attleborough,	.	.	.	.	.	.	.	.
Norwood,	.	.	.	.	.	.	.	.
Peabody,	134	7	529	27,525	1,651.44	120	887.0	2,538.44
Reading,	110	-	568	21,941	953.14	45	835.65	1,788.79
Rowley,	-	-	186	- ¹	- ¹	-	-	- ¹
Shrewsbury,	-	-	337	4,500	208.48	-	-	208.48
Sterling,	-	-	114	878	39.70	1	2.5	42.20
Taunton,	189	101	1,786	22,000	1,276.18	167	124.5	1,400.68
Templeton,	-	3	246	3,210	163.76	28	18.35	182.11
Wakefield,	36	6	573	- ¹	- ¹	-	-	- ¹
Wellesley,	-	1	996	19,850	1,024.99	29	39.1	1,064.09
West Boylston,	-	-	205	1,240	57.80	-	-	57.80
Westfield,	149	-	171	- ¹	- ¹	78	-	- ¹

¹ No record.

¹ Incomplete.

TABLE 6. — Statistics of Lights and Customers.

The following table shows the number of commercial lights installed, and the number of customers for each kind, on June 30 last: —

MUNICIPALITY.	Number of Customers using Commercial Lights only.	Number of Customers using Commercial Incandescent Lights only.	Number of Customers using both Are and Incandescent Lights but no Power.	Number of Customers using Electric Power only.	Number of Customers using both Light and Power.	COMMERCIAL AREAS.			Number of Commercial Incandescent Carbon Lamps (60 Watt Units).	Number of Commercial Tungsten Lamps (40 Watt Units).	Number of Nest Lamps.	Number of Enclosed Are Lamps.
						Number.	RATING.					
							Amperes.	Watts.				
Ashburnham,
Belmont,
Braintree,
Chicopee,
Concord,
Danvers,
Groton,
Groveland,
Hingham,
Holden,
Holyoke,
Hudson,
Hull,
Ipswich,
Mansfield,
Marblehead,
Merrimac,
Middleborough,
Millers Falls,

¹ No record.

² Includes 40 watt tungsten lamps.

TABLE 6. — Statistics of Lights and Customers — Concluded.

MUNICIPALITY.	Number of Customers using Commercial Arcs only.	Number of Customers using Commercial Incandescent Lights only.	Number of Customers using both Arc and Incandescent Lights but no Power.	Number of Customers using Electric Power only.	Number of Customers using both Light and Power.	COMMERCIAL ARCS.			Number of Commercial Incandescent Carbon Lamps (60 Watt Units).	Number of Commercial Tungsten Lamps (40 Watt Units).	Number of Nernst Lamps.	Number of Enclosed Arc Lamps.
						Number.	RATING.					
							Ampere.	Watts.				
North Attleborough,	1	626	3	4	24	5	6	600	18,553	-	-	5
Norwood,	1	585	1	2	17	1	5.5	500	7,840	6,116	-	1
Peabody,	1	996	3	88	-	1	6	450	25,921	1,604	-	141
Reading,	1	928	1	3	36	2	6.6	400	21,696 ¹	-	-	110
Rowley,	1	47	1	1	1	-	-	-	1,500	3,000	-	-
Shrewsbury,	1	147	1	-	24	-	-	-	-	878	-	-
Sterling,	1	35	1	1	1	-	-	-	-	-	-	-
Taunton,	2	608	5	26	63	35	6	450	18,500	3,500	-	295
Templeton,	1	132	1	5	23	28	6.6	475	2,130	1,080	-	3
Wakefield,	2	438	2	5	-	38	7.5	550	-	-	-	42
Wellesley,	1	583	1	13	7	1	5	660	19,000	850	-	1
West Boylston,	1	67	1	-	-	6	6	3,000	-	1,240	-	-
Westfield,	1	295	1	49	41	-	-	-	-	-	-	-

¹ Includes 40 watt tungsten lamps.

² No record.

TABLE 7. — *Gas Plant Statistics.*

The following tables exhibit data of interest concerning these plants and their operations: —

For the Year ending June 30, 1912.

	Holyoke.	Middle- borough.	Wakefield.	Westfield.
Daily capacity of works (feet), .	1,700,000	125,000	350,000	175,000
Greatest output (feet), . . .	647,827	16,000	169,600	156,200
Date of same,	Jan. 25	Nov. 13	Nov. 29	Dec. 24
Least output (feet),	420,439	4,000	76,000	77,900
Date of same,	April 15	May 12	March 7	April 18
Gas made (feet), year ending June 30, 1912,	207,528,500	2,480,220	41,819,000	39,850,100
Gas made (feet), year ending June 30, 1911,	198,104,800	1,305,000	40,717,000	36,896,400
Gas sold by meter (feet), year ending June 30, 1912,	181,726,100	1,399,900	25,952,200	36,442,000
Gas sold by meter (feet), year ending June 30, 1911,	176,242,600	905,600	23,839,800	33,659,107
Gas supplied to public buildings (feet), year ending June 30, 1912,	1,220,000	29,900	181,200	289,100
Gas sold to other plants June 30, 1912 (feet),	—	—	4,044,300	—
Gas sold to other plants June 30, 1911 (feet),	—	—	7,292,700	—
Gas used at works and offices (feet), year ending June 30, 1912,	1,309,100	63,000	89,600	177,800
Gas unaccounted for (feet), year ending June 30, 1912,	23,340,522	968,420	11,554,700	2,916,100
Percentage unaccounted for, 1912,	11.25	39.05	27.63	7.32
Percentage unaccounted for, 1911,	9.86	27.10	22.63	7.59
Total sales of gas 1911-12 (feet),	183,026,800	1,429,800	30,177,700	36,731,100
Increase over 1910-11 (per cent),	3.18	56.02	3.76 ¹	8.38
Gas sold per mile of main (feet),	3,430,570	251,234	985,888	1,622,795
Gas unaccounted for per mile of main (feet),	437,484	170,164	377,485	128,834
Number of consumers per mile of main,	224.8	29.0	52.8	95.9
Gas sold per consumer (feet),	15,154	8,484	16,060	16,794
Gas materials used,	— ²	— ³	— ⁴	— ⁵
Fuel used,	— ⁶	— ⁷	— ⁸	— ⁹

¹ Decrease.

² Oil, 530,730 gallons; benzol, 7,758 gallons.

³ Fuel oil, 23,946 gallons.

⁴ Fuel oil, 40,802 gallons.

⁵ Cannel, 112 tons; benzol, 2,374 gallons.

⁶ Gas coal, 8,358 tons; coke, 312,938 bushels; tar, 74,000 gallons.

⁷ Coal, 34½ tons; coke, 92½ tons.

⁸ Gas coal, 3,225 tons; coke, 300 tons.

⁹ Gas coal, 4,197 tons; coke, 750 tons.

TABLE 8. — *Street Mains, — Meters.*

Street Mains. — Length in Feet, of Each Size, June 30, 1912.

	Holyoke.	Middle- borough.	Wakefield.	Westfield.
One inch,	1,441	195	8,616	—
One and one-quarter inch,	4,507	50	6,419	475
One and one-half inch,	2,485	375	25,338	913
Two inch,	9,335	1,726	33,534	5,645
Two and one-half inch,	380	—	338	—
Three inch,	70,387	13,685	24,928	70,225
Four inch,	89,996	9,918	24,748	28,462
Six inch,	58,697	875	13,106	9,015
Eight inch,	26,976	3,225	—	3,053
Ten inch,	—	—	2,600	—
Twelve inch,	10,475	—	—	1,722
Fifteen inch,	440	—	—	—
Sixteen inch,	6,578	—	—	—
Total length,	281,697	30,049	161,619	119,510
Length in miles and feet, { miles,	53	5	30	22
{ feet,	1,857	3,649	3,219	3,350
Increase during year,	15,921	13,192	5,395	7,107

Meters. — Number of Each, June 30, 1912.

Two light,	-	-	10	-
Three light,	11,495	105	1,406	1,941
Five light,	176	43	165	174
Ten light,	167	9	14	28
Twenty light,	62	6	10	13
Thirty light,	38	1	3	6
Thirty-five light,	-	-	1	-
Forty-five light,	21	-	1	3
Fifty light,	2	1	3	1
Sixty light,	10	-	-	2
Eighty light,	5	-	1	2
One hundred light,	7	-	1	-
One hundred and fifty light,	3	-	1	-
Two hundred light,	5	-	-	-
Three hundred light,	1	-	-	-
Total number in use June 30, 1912,	11,992	165	1,616	2,170
Increase during year,	834	12	160	182

¹ Includes 21,992 feet three-quarter-inch main.

APPENDIX G.—ABSTRACTS OF ACCIDENTS.

In accordance with section 39 of chapter 121 of the Revised Laws, the Board herewith presents abstracts of the cases reported resulting in death or bodily injury from gas and electricity manufactured and sold during the year 1912.

GAS.

Fatal Cases.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Jan. 1	Albert D. Pecker, . . .	20	Tufts College, Somerville, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
2	Michael Lund, . . .	58	Boston: 19 Rockland Street, . . .	Mixed, .	Burner left open; accidental.
3	Robert Melvin, . . .	77	Cambridge: 82 Berkshire Street, . . .	Mixed, .	Burners of gas stove left open; accidental.
6	Wheelock Brown, . . .	27	Porter House, Gloucester, . . .	Mixed, .	Burner left open; accidental.
7	George F. Mussels, . . .	55	Lynn: 172 Liberty Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
7	Mary Dalton, . . .	40	Boston: 1774 Washington Street, . . .	Mixed, .	Burner left open; suicide.
8	George W. Freemont, . . .	38	Boston: 10 Burbank Street, . . .	Mixed, .	Burner left open; accidental.
9	James Galloway, . . .	—	Boston: 757 Norfolk Street, . . .	Mixed, .	Burner left open; accidental.
9	John Jacobs, . . .	31	South Boston: 108 Emerson Street, . . .	Mixed, .	Burner of radiator left open; accidental.
11	James E. McEvoy, . . .	45	Waltham: Riverside Hotel, . . .	Mixed, .	Burner left open; accidental.

Fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Jan. 12	Mary H. Harrison, . . .	50	New Bedford: 443 Pleasant Street, . . .	Mixed, .	Burners left open; suicide.
12	Klute C. Johnson, . . .	32	Boston: 30 Cambridge Street, . . .	Mixed, .	Burner left open; suicide.
14	Arthur Lemay, . . .	34	Haverhill: 9 Central Street, . . .	Water, .	Burners left open; suicide.
14	James O'Donald, . . .	58	Boston: 83 Carver Street, . . .	Mixed, .	Gas escaped from radiator connection; accidental.
14	Michael J. Flynn, . . .	70	Boston: 103 Union Park Street, . . .	Mixed, .	Gas escaped from gas heater; accidental.
16	Solomon H. Boyd, . . .	65	Brockton: 103 Montello Street, . . .	Mixed, .	Gas escaped from open burner through prepayment meter.
20	Richard Blaisdell, . . .	84	Haverhill: 99 Main Street, Bradford District.	Water, .	Burner of gas heater left open; accidental.
20	Grace Rogers, . . .	56	Boston: 32 Milford Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
23	Mesida Chartier, . . .	23	Fall River: 79 Thomas Street, . . .	Water, .	Burner of gas heater left open; accidental.
23	Louis Bloom, . . .	30	Lynn: 18 Munroe Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
23	Augustus B. Haines, . . .	39	Boston: 132 Water Street, . . .	Mixed, .	Burner left open; suicide.
29	William Smith, . . .	34	Lynn: 25 Buffum Street, . . .	Mixed, .	Burner left open; suicide.
Feb. 2	Unknown man (Italian), . . .	25	Boston: 3 Lothrop Place, . . .	Mixed, .	Burner left open.
3	Robert Proctor, . . .	51	} New Bedford: 166 Nash Road, . . .	Mixed, .	Burner left open; accidental.
3	Lillian Proctor, . . .	15			
6	Jacob Bagdasarian, . . .	—	Worcester: 16 Orange Street, . . .	Mixed, .	Burner of gas stove left open; suicide.
8	Mrs. Eunice Pease, . . .	70	Pittsfield: 1151 North Street, . . .	Mixed, .	Gas entered house from leak in gas main.

10	Alphonse Richard, . . .	35	New Bedford: 1205 Acushnet Avenue, . . .	Mixed, .	Burner left open; suicide.
12	Mary Casey, . . .	44	Pittsfield: 190 Pleasant Street, . . .	Mixed, .	Burner left open; suicide.
12	Thomas W. Johnson, . . .	24	Boston: 26 Worcester Street, . . .	Mixed, .	Burner left open; accidental.
13	Michael S. Monahan, . . .	38	} Holyoke: 254 Main Street, . . .	Mixed, .	Burner left open; accidental.
13	Thomas Wymen, . . .	30			
14	Fred C. Moore, . . .	34	Boston: 43 Bowdoin Street, . . .	Mixed, .	Burner left open; suicide.
16	Thomas Wilson, . . .	58	New Bedford: 95 Beetle Street, . . .	Mixed, .	Burner left open; suicide.
20	Elizabeth P. Hayes, . . .	45	Boston: 2757 Washington Street, . . .	Mixed, .	Burner left open; suicide.
22	Unknown woman, . . .	40	Boston: 7 Bowdoin Street, . . .	Mixed, .	Burner left open; accidental.
22	John Craven, . . .	50	Boston: 20 Darling Street, . . .	Mixed, .	Burner left open; accidental.
Mar. 1	Joseph Arsenaunt, . . .	24	Boston: 1200 Washington Street, . . .	Mixed, .	Burner left open; suicide.
3	Joseph Uhrig, . . .	15	Boston: 2986 Washington Street, . . .	Mixed, .	Tubing connecting gas radiator became detached; accidental.
3	Fred Williams, . . .	55	Haverhill: 16 How Street, . . .	Water, .	Burner left open; accidental.
4	Mrs. Maria Briggs, . . .	75	North Adams: 6 Briggs Street, . . .	Mixed, .	Gas from leaking street main entered house.
6	William E. Felch, . . .	45	} Haverhill: 28 Lafayette Square, . . .	Water, .	Burner left open; accidental.
6	Christopher Charron, . . .	41			
7	John F. Harrington, . . .	38	Lowell: 159 Middlesex Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
8	Frank Tourville, . . .	65	Lowell: 506 Middlesex Street, . . .	Mixed, .	Burner left open; accidental.
9	Fred Corneau, . . .	24	Haverhill: Hotel Webster, . . .	Water, .	Burner left open; accidental.

Fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Mar. 10	Walter Rothwell, . . .	29	New Bedford: 29 Valentine Street, .	Mixed, .	Burner left open; suicide.
14	Michael O'Malley, . . .	35	New Bedford: 180 Cove Street, .	Mixed, .	Burner left open; suicide.
14	F. E. Jepson, . . .	26	Brockton: 157 Warren Avenue, .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
17	Charles Vabecky, . . .	63	} New Bedford: 107 Davis Street, .	Mixed, .	Burner left open; suicide.
17	Katherine Vabecky, . . .	73		Mixed, .	Burner left open; suicide.
18	Levi Verrette, . . .	54	Haverhill: 49 Emerson Street, .	Water, .	Burner left open; suicide.
19	Charles L. Curran, . . .	36	South Boston: 2 Farragut Road, .	Mixed, .	Burner left open; accidental.
22	William L. Foster, . . .	33	Haverhill: 7 West Street, . . .	Water, .	Burners of gas radiator left open; accidental.
23	Mrs. Icy Sharron, . . .	22	Athol: Marble Street, . . .	Water, .	Gas inhaled through rubber tube attached to open burner.
24	John A. Kerr, . . .	58	South Boston: 88 O Street, . . .	Mixed, .	Burner left open; accidental.
26	Ellsworth Ferguson, . . .	48	Boston: 21 Concord Square, . . .	Mixed, .	Burner left open; suicide.
26	Thomas Coakley, . . .	32	} Lynn: 16 South Common Street, .	Mixed, .	Chandelier broken off allowing gas to escape.
26	Mary Chinnery, . . .	35		Mixed, .	
28	Grace C. Hall, . . .	27	West Somerville: 5 Irving Street, .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
31	William G. Bruso, . . .	38	Brockton: corner Spring and Main streets.	Mixed, .	Gas inhaled through rubber tube attached to open burner.
April 5	James Quigley, . . .	78	Somerville: 29 Sawyer Avenue, . .	Mixed, .	Burner left open; accidental.
5	Lillian Schooner, . . .	20	Milford: 141 Harrishoff Street, . .	Mixed, .	Burner left open; suicide.

5	Mrs. Martha M. Knowles, .	73	Lowell: 43 Franklin Street, .	Mixed, .	Burner of gas heater left open; accidental.
11	Joseph Savoie, . .	27	New Bedford: 145 Middle Street, .	Mixed, .	Burner left open; accidental.
12	Thomas Ambrose, . .	76	Lynn: 17 Whittier Street, . .	Mixed, .	Burner of gas stove left open; accidental.
13	James McCreery, . .	83	Fall River: 559 Osborn Street, . .	Water, .	Gas escaped from defective tubing connecting heater.
16	William J. McKenna, .	28	Roxbury: 221 Heath Street, . .	Mixed, .	Burner left open; accidental.
26	Alexander T. Ford, . .	52	North Adams: 31 Main Street, . .	Mixed, .	Burner of gas range left open; suicide.
27	Leo John Petrie, . .	27	Boston: 47 Appleton Street, . .	Mixed, .	Burner left open; accidental.
29	Margaret Dodge, . .	60	Malden: 241 Bryant Street, . .	Mixed, .	Burner left open; accidental.
30	John J. Moran, . .	25	Boston: 1479 Washington Street, .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
30	Henry J. Hatch, . .	42	Somerville: 21 Stone Avenue, . .	Mixed, .	Gas escaped from open burner through prepayment meter.
May 3	George A. Farnum, . .	58	Brockton: 134 Copeland Street, . .	Mixed, .	Burner of gas range left open; accidental.
3	John W. McKeown, . .	74	Cambridge: 29 Pemberton Street, .	Mixed, .	Burner left open; accidental.
6	Alfred Charest, . .	45	Haverhill: 40 Emerson Street, . .	Water, .	Burner left open; accidental.
8	Richard J. Horan, . .	—	Boston: 67 Waverly Street, . .	Mixed, .	Burner left open; suicide.
11	John MacKechnie, . .	30	Somerville: 19 Madison Street, . .	Mixed, .	Burner left open; suicide.
12	Gladys Lervey, . .	13	Dracut: 54 Jones Street, . .	Mixed, .	Burner left open; accidental.
13	Mrs. Jeanie N. Hemenway, .	—	Somerville: 40 Central Street, . .	Mixed, .	Burner left open; suicide.
14	Daniel Smith, . .	30	Malden: Eastern Avenue, . .	Mixed, .	Company employee working in trench. Main broken and man held down by cave in.

Fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
May 14	Henry C. Boardman, .	74	Springfield: 232 Worthington Street, .	Mixed, .	Burner left open.
15	Eva V. Lyden, .	15	Fall River: 72 Montaup Street, .	Water, .	Burner left open; suicide.
21	George H. Wickes, .	—	Boston: Glenway Street, . . .	Mixed, .	Burner left open; accidental.
22	Franklin Abbott, .	—	Boston: 158 West Concord Street, .	Mixed, .	
26	Mrs. Lizzie Benson, .	30	Brockton: 187 Warren Avenue, .	Mixed, .	Burner left open; accidental.
29	Richard P. Metcalf, .	55	Roxbury: 37 Moreland Street, . .	Mixed, .	Burner left open; suicide.
June 1	Herbert J. Arnold, .	17	Boston: 426 Hyde Park Avenue, .	Mixed, .	Burner left open; suicide.
2	Israel Green, . . .	—	New Bedford: 179 Acushnet Avenue, .	Mixed, .	Burner left open; suicide.
9	Mrs. Carrie Robbins, .	50	Haverhill: 229½ Essex Street, . .	Water, .	Gas inhaled through rubber tube attached to open burner.
14	Charles E. Laloude, .	29	Lowell: 30 Rock Street, . . .	Mixed, .	Burner left open; suicide.
14	John E. Heaphy, .	34	Cambridge: 181 Main Street, . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
17	George Crannage, .	76	Fall River: 21 West Weir Street, .	Water, .	Gas inhaled through rubber tube attached to open burner.
19	Daniel Morrill, .	50	Milford: 10 How Street, . . .	Water, .	Burner left open; accidental.
19	Mrs. Clara Cross, .	45	Springfield: 43 Wait Street, .		
19	Gertrude Cross, .	9			
19	Hazel Cross, .	8		Mixed, .	Gas turned on; homicidal.
19	Garrald Cross, .	3			

July	1	Mrs. Cora Barker, . . .	—	Medford: 236 Spring Street, . . .	Mixed, . . .	Fatally burned; clothing caught fire from gas hot plate.
	3	Mrs. Albina J. Smith, . . .	35	Boston: 368A Tremont Street, . . .	Mixed, . . .	Gas inhaled through rubber tube attached to open burner.
	15	Mrs. Julia Conroy, . . .	60	Fall River: 48 Peckham Street, . . .	Water, . . .	Burner left open; accidental.
	16	Herbert A. Patterson, . . .	56	Lowell: 27 Myrtle Street, . . .	Mixed, . . .	Gas inhaled through rubber tube attached to open burner.
	17	Mrs. Mary A. Allen, . . .	60	Springfield: 431 Main Street, . . .	Mixed, . . .	Gas inhaled through rubber tube attached to open burner.
	23	John Scantas, . . .	—	Lynn: 11 Neptune Street, . . .	Mixed, . . .	Burner left open.
	31	Victor E. Eliason, . . .	21	Worcester: 214 West Boylston Street, . . .	Mixed, . . .	Burner left open; suicide.
Aug.	1	Edmund F. Knight, . . .	61	Salem: 147 Federal Street, . . .	Mixed, . . .	Burner left open; suicide.
	2	Joseph Mooney, . . .	—	Fall River: 1907 Pleasant Street, . . .	Water, . . .	Burner left open; accidental.
	2	Lillian V. Silva, . . .	18	Boston: 749 Harrison Avenue, . . .	Mixed, . . .	Gas inhaled through rubber tube attached to open burner.
	2	John Sullivan, . . .	57	Haverhill: 34 Emerson Street, . . .	Water, . . .	Burner left open; suicide.
	5	Mrs. Bella Pava, . . .	23	Springfield, . . .	Mixed, . . .	Burner left open; suicide.
	6	Mrs. Elizabeth Webster, . . .	53	New Bedford: 59 Winsor Street, . . .	Mixed, . . .	Gas inhaled through rubber tube attached to open burner.
	12	Mrs. Mary E. Bosworth, . . .	—	New Bedford: 674 Cottage Street, . . .	Mixed, . . .	Burner left open; accidental.
	13	Francis Bergstrom, . . .	54	Worcester: 55 Channing Street, . . .	Mixed, . . .	Burner left open; suicide.
	14	Luke Vignault, . . .	45	} Lawrence: 539 Broadway, . . .	Mixed, . . .	Burner left open; accidental.
	14	Victoria Cyr, . . .	48		Mixed, . . .	Burner left open; suicide.
	14	Jennie Sylvester, . . .	30	South Boston: 127 P Street, . . .	Mixed, . . .	Burner left open; suicide.
	18	John Brady, . . .	35	Neponset: 47 Walnut Street, . . .	Mixed, . . .	Burner left open; suicide.

Fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Aug. 18	Charles E. Reid, . . .	40	Lynn: 342 Washington Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
21	Lillian P. Gardiner, . . .	28	Peabody: 13 Warren Street, . . .	Mixed, .	Burner left open; suicide.
23	Ernestina Jacobs, . . .	80	Lawrence: 208 Prospect Street, . . .	Mixed, .	Burner of gas stove left open; accidental.
27	Henry B. Cecil (Brother Virgil).	—	East Boston: 5 Seaver Street, . . .	Mixed, .	Burner left open.
Sept. 2	Rachael Jaffa, . . .	28	Holyoke: 61 Walnut Street, . . .	Mixed, .	Burner of gas stove left open.
2	Louise Jaffa, . . .	5			
2	Hyman Jaffa, . . .	3			
2	Abraham Jaffa, . . .	1			
5	Pintavallo Mariano, . . .	—	Pittsfield: 170 Fenn Street, . . .	Mixed, .	Burner left open; accidental.
10	Charles S. Bartlett, . . .	64	Boston: 22 Blagden Street, . . .	Mixed, .	Burner left open; suicide.
12	Charles Reiss, . . .	30	Boston: 36 Williams Street, . . .	Mixed, .	Burner left open; suicide.
17	James Donald, . . .	60	Cambridge: corner Walden Street and Concord Avenue.	Mixed, .	Company employee. Burner of gas stove left open; accidental.
18	William B. Thompson, . . .	55	Nahant: 307 Castle Road, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
18	Harriet A. Buckler, . . .	39	Springfield: 570 Sumner Avenue, . . .	Mixed, .	Burner left open; suicide.
19	Velorious V. Sulloway, . . .	83	Waltham: 150 Weston Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
19	Frank J. McNeeley, . . .	40	Boston: 76 Green Street, . . .	Mixed, .	Burner left open.
20	Ellen Carey, . . .	45	Brockton: 34 Green Street, . . .	Mixed, .	Burner left open; accidental.

23	William Beekman, . . .	74	Boston: 131 Pembroke Street, . . .	Mixed, .	Burner left open; suicide.
25	George A. Goodwin, . . .	50	Salem: 7 Hamilton Street, . . .	Mixed, .	Burner left open; suicide.
26	William Gliniski, . . .	—	Lowell: Washington Tavern, . . .	Mixed, .	Burner left open.
27	George B. Simmons, . . .	57	Haverhill: 5 Washington Square, . . .	Water, .	Burner left open; suicide.
Oct. 2	Mabel A. Fogg (Mrs. M. Intros).	30	Lowell: 226 Merrimack Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
4	Victor Clement, . . .	45	Boston: 644 8th Street, . . .	Mixed, .	Burner left open; suicide.
5	Eliphalet H. Ring, . . .	39	Boston: 4 Staniford Street, . . .	Mixed, .	Burner left open; suicide.
8	Mrs. Laura A. Leavitt, . . .	58	Haverhill: 71 Cedar Street, . . .	Water, .	Burner left open; suicide.
8	E. A. D. Newton, . . .	84	Boston: 19 Common Street, . . .	Mixed, .	Burner left open; suicide.
10	Michael J. Hannifin, . . .	37	Springfield: 25 Tenth Street, . . .	Mixed, .	Burner left open; suicide.
11	Hannah M. Giblein, . . .	46	Lynn: 11 Olive Street, . . .	Mixed, .	Burner left open; suicide.
18	Nora Donovan, . . .	65	Lawrence: 204 Park Street, . . .	Mixed, .	Burner left open; accidental.
19	George B. Barrows, . . .	70	Springfield: 61 Pynchon Street, . . .	Mixed, .	Burner left open; suicide.
22	Ruth Percival, . . .	35	New Bedford: 314 Coggeshall Street, . . .	Mixed, .	Burner left open; suicide.
23	Mary A. Clifton, . . .	26	Fall River: 98 Borden Street, . . .	Water, .	Burner left open; suicide.
25	Ella A. Jeft, . . .	50	Boston: 99 Wachusett Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
29	Adelaide E. Ingraham, . . .	59	Springfield: 1086 State Street, . . .	Mixed, .	Burner left open; suicide.
31	John E. Crowley, . . .	56	Boston: 56 East Newton Street, . . .	Mixed, .	Burner left open; suicide.
31	Ralph Entwistle, . . .	57	New Bedford: 413 Purchase Street, . . .	Mixed, .	Burner left open; accidental.

Fatal Cases — Continued.

Date.	Remarks.
Nov. 1	
2	; suicide.
4	ough rubber tube attached r.
4	; accidental.
7	; suicide.
7	; suicide.
8	
8	; accidental.
8	
8	; suicide.
10	; suicide.
10	; suicide.
10	; suicide.
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11	ough rubber tube attached r.
11	; accidental.
11	
11	; suicide.
16	; suicide.

16	Frank R. Bardwell, . . .	28	Springfield: 59 James Street, . . .	Mixed, .	Burner left open; suicide.
18	Harold B. Brown, . . .	45	Holyoke: 350 High Street, . . .	Mixed, .	Gas escaped from open burner through prepayment meter; accidental.
23	Mrs. Ellen Coyle, . . .	75	Clinton: 733 Main Street, . . .	Water, .	Burner of gas stove left open; accidental.
24	Eugene McCarthy, . . .	45	Springfield: 37 Grays Avenue, . . .	Mixed, .	Burner left open; accidental.
25	Thomas Parkinson, . . .	57	} New Bedford: 11 McMurray Court, . . .	Mixed, .	Burner left open; accidental.
25	Nancy Parkinson, . . .	44		Mixed, .	Burner left open; accidental.
26	Sharam Tokmajian, . . .	26	Haverhill: 3 High Street, . . .	Water, .	Burner left open; accidental.
26	Francois Malfert, . . .	65	} Holyoke: 20 Cabot Street, . . .	Mixed, .	Burner left open; suicide.
26	Philomeme Malfert, . . .	62		Mixed, .	Burner left open; suicide.
28	William R. Sharpe, . . .	58	Cambridge: 252 Western Avenue, . . .	Mixed, .	Tube became disconnected from gas stove; accidental.
29	Hedwig Kuuriluoma, . . .	-	Gloucester: 81 Maplewood Avenue, . . .	Mixed, .	Burners left open; suicide.
29	William Smith, . . .	70	Fall River: 980 County Street, . . .	Water, .	Burner left open; accidental.
30	Israel Swirsky, . . .	19	Boston: 12 Salem Street, . . .	Mixed, .	Gas escaped from open burner through prepayment meter; accidental.
30	Edward P. Kennedy, . . .	-	} Holyoke: 931 Main Street, . . .	Mixed, .	Burner left open; accidental.
30	John Sheehan, . . .	-		Mixed, .	Burner left open; accidental.
Dec. 2	Charles Robbins, . . .	50	Lawrence: 83 Osgood Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
5	Alfred Meckel, . . .	25	Boston: 56 West Newton Street, . . .	Mixed, .	Gas inhaled through rubber tube attached to open burner.
7	Edmund Burke, . . .	42	Boston: 286 Dudley Street, . . .	Mixed, .	Burner left open; accidental.
8	Francis O'Mara, . . .	24	Springfield: 48 Bliss Street, . . .	Mixed, .	Burner left open; suicide.

Fatal Cases — Concluded.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Dec. 8	Luis J. Pavoa, .	40	} Fall River: 463 North Underwood Street.	Water, .	Burner left open; accidental.
8	Peter P. Pavoa, .	55			
14	Eugene T. Blair, .	47	Brockton: 153 Court Street, .	Mixed, .	Burner of gas heater left open; accidental.
16	Clara Cain, .	24	Boston: 171 Eustis Street, .	Mixed, .	Burner left open; suicide.
17	Rosa Dufresne, .	59	Haverhill: 48 Locust Street, .	Water, .	Burner left open; suicide.
18	Morris Miller, .	57	Haverhill: 51 Ayer Street, .	Water, .	Burner left open; suicide.
20	Alice M. Dean, .	36	} Boston: 1597 Washington Street, .		
20	John Riley, .	42		Mixed, .	Burner of gas stove left open; accidental.
20	Unknown man, .	-			
23	George Fifield, .	29	Malden: 112 Pleasant Street, .	Mixed, .	Burner left open; suicide.
24	William La Branch, .	40	Haverhill: 46 Washington Avenue, .	Water, .	Burner left open; accidental.
24	Harry Gunther, .	21	Williamstown: 31 Southworth Street, .	Mixed, .	Tubing disconnected from radiator; acci- dental.
• 27	Hans C. Akers, .	52	Somerville: 54A Beacon Street, .	Mixed, .	Gas inhaled through rubber tube attached to open burner.

Non-fatal Cases.

Jan.	3	Charles H. Luce,	.	.	55	Haverhill: 40 Emerson Street,	.	Water,	.	Tubing became disconnected from gas radiator.
	4	Leo Peters,	.	.	—	Lawrence: 403 Essex Street,	.	Mixed,	.	Burners left open; accidental.
	5	Eliza Radwell,	.	.	25	Boston: 12 Normandy Street,	.	Mixed,	.	Burners left open.
	6	Carl Tucker,	.	.	19	Boston: 42 Rutland Square,	.	Mixed,	.	Gas inhaled through rubber tube attached to open burner; attempted suicide.
	7	Sadie Carlsberg,	.	.	42	} Boston: 10 Bartlett Street,	.	Mixed,	.	Headaches caused by gas escaping from leak in street main.
	7	Arthur Carlsberg,	.	.	14		.			
	7	Isador Carlsberg,	.	.	8		.			
	7	Anna Wendell,	.	.	30		.			
	7	Mrs. Sikorsky, three daughters and one son.	.	.	—	Haverhill: 91 River Street,	.	Water,	.	Nauseated by gas escaping from defective pipe.
	8	Mrs. Elizabeth Chappelle,	.	.	—	Malden: 837 Eastern Avenue,	.	Mixed,	.	Slightly affected by gas entering store from street main.
	8	Peter Sezora,	.	.	27	} Boston: 241-243 Washington Street,	.	Mixed,	.	Injured by explosion of gas.
	8	Josephine Taniski,	.	.	28		.			
	8	J. Steele,	.	.	25		.			
	9	Bengello Rubino,	.	.	35	Boston: 223 Pleasant Street,	.	Mixed,	.	Burner left open; accidental.
	9	Simon Parskorsky,	.	.	26	Boston: 26 Minot Street,	.	Mixed,	.	Burner left open; accidental.

Non-fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Jan. 12	Clara Cucco, .	23	Boston: 6 Keith's Alley, . . .	Mixed, .	Slightly affected by gas entering premises from leak at entrance of supply pipe.
12	Neth Cucco, .	4			
12	Anthony Cucco, .	2			
12	Angelina Cucco, .	3 wks.			
12	Colasci Spinnelli, .	58			
12	Josephine Mirable, .	19			
12	Martin Grasso, .	35			
12	Katherine La Court, .	22			
12	Louis La Court, .	22			
12	James La Court, .	48			
12	Louisa La Court, .	45			
12	Anthony La Court, .	5			
12	Dominic La Court, .	11			
12	Generoso Potito, .	67			
12	Giovanni Serafini, .	30			
12	M. F. Kember, .	-	Gloucester: corner Main and Porter streets.	Mixed, .	Telephone lineman. While working in manhole affected by gas.

13	Mrs. George S. Mansfield, .	—	Malden: corner Beltram and Glenwood streets.	Mixed, .	Slightly ill from gas which escaped from leaky service.
13	Mrs. Ernest Monroe and children.	—	Gloucester: 50 Cleveland Street, .	Mixed, .	Slightly ill from gas escaping from defective tee.
14	Patrick F. Dwyer, .	60	Boston: 54 North Street, . . .	Mixed, .	Burner left open; accidental.
16	Capt. Ordway, .	—	} Medford: corner Dudley and Washington streets.	Mixed, .	Firemen; during a fire solder on gas meters melted and while trying to shut off gas were burned by gas flame.
16	Lieut. H. Fraser, .	—			
17	Sallie Pollie, .	—	Gloucester: corner Church and Columbia streets.	Mixed, .	Company employee. While repairing leak in main was overcome.
18	John Kaminsky, .	22	Boston: 14 South Russell Street, .	Mixed, .	Burner left open; accidental.
18	Joseph Cecilen, .	45	} Haverhill: 72 Primrose Street, . .	Water, .	Defective tube connected to gas range.
18	Guy Cecilen, .	16			
19	Archie Depelteau, .	—	Adams: North Summer Street, . .	Mixed, .	Company employee. Overcome while repairing leak in main.
20	Doris Grant, .	—	} Medford: 128 South Street, . . .	Mixed, .	Slightly affected by gas from a leaky main.
20	Lolo Laughlin, .	—			
26	Michael Curtin, .	—	Salem: Gas Works,	Mixed, .	Company employee. Affected by gas in purifying room.
28	Julius Feldman, .	50	} Malden: 103 Bryant Street, . . .	Mixed, .	Affected by gas entering premises from leak in main.
28	Ida Listernick, .	47			
28	Samuel Listernick, .	20			
28	Abraham Listernick, .	18			
28	Annie Listernick, .	22			
28	Sydney Listernick, .	16			
28	Solomon Listernick, .	52			

Non-fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Jan. 29	Doris Powell, . . .	—	} Medford: 8 Walnut Street, . . .	Mixed, .	Affected with headache by gas from leaky main.
29	Gertrude Powell, . . .	—			
30	Margaret Moran, . . .	—	} Amesbury: Telephone Exchange, . . .	Water, .	Burner of gas stove left open; accidental.
30	Martha Hatch, . . .	—			
Feb. 4	John Chapman, . . .	27	Boston: 2971 Washington Street, . . .	Mixed, .	Burner left open; accidental.
7	Mrs. Annie Geraghty, . . .	—	} Medford: 4 Winchester Street, . . .	Mixed, .	Affected with nausea and headache by gas from a leaky main.
7	Veronica Geraghty, . . .	—			
7	Catherine Geraghty, . . .	—			
7	Constance Geraghty, . . .	—			
8	Mrs. Oscar Hermann and young son.	—	Pittsfield: 1151 North Street, . . .	Mixed, .	Nauseated by gas from a leaky main.
8	Mrs. Maggie Burke, . . .	—	Gloucester: 9 Willow Street, . . .	Mixed, .	Affected by gas from a leaky main.
10	Mrs. Lucy McCrillis, . . .	53	} Malden: 8 Rockland Avenue, . . .	Mixed, .	Affected with nausea and headache by gas from a leaky main.
10	Owen McCrillis, . . .	35			
10	E. Spencer, . . .	38			
11	Mrs. Wm. H. Crowdis and son.	6	Peabody: 74 Franklin Street, . . .	Mixed, .	Overcome by escaping gas.
11	H. E. Knowlin, . . .	35	} Malden: 44 Church Street, . . .	Mixed, .	Affected with nausea and headache by gas from leaky pipe.
11	F. J. Lowe, . . .	22			

13	John R. Simon,	.	.	29	Boston: 64 Bowdoin Street,	.	Mixed,	Burner left open; attempted suicide.
14	Mrs. C. L. Briggs,	.	.	61	} Malden: 1398 Eastern Avenue,	.	Mixed,	Affected with nausea and headache by gas from a leaky main.
14	Francis Briggs,	.	.	5		.	Mixed,	Gas escaping through rubber tube attached to open burner; attempted suicide.
14	A. L. Nadler,	.	.	—	Springfield: 78 Water Street,	.	Mixed,	Slightly affected by gas from a leaky street main.
19	Mrs. John Dean,	.	.	—	} New Bedford: Middle Street,	.	Mixed,	Burner left open; attempted suicide.
19	Mrs. Fannie Vonlier,	.	.	—		.	Mixed,	Burner left open; attempted suicide.
19	Ronald McEchern,	.	.	25	Boston: 100 West Canton Street,	.	Mixed,	Burner left open; attempted suicide.
19	Max Goldstein,	.	.	55	Cambridge: 272 Western Avenue,	.	Mixed,	Burner left open; attempted suicide.
22	Thomas Lynch,	.	.	—	Boston: 7 Bowdoin Street,	.	Mixed,	Burner left open; accidental.
26	Daniel Ford,	.	.	26	Boston: 30 Cambridge Street,	.	Mixed,	Burner left open; accidental.
26	Mrs. Sarah Shaw,	.	.	36	} Malden: 442 Eastern Avenue,	.	Mixed,	Affected with nausea and headache by gas from a leaky main.
26	Arthur Shaw,	.	.	13		.	Mixed,	
26	Samuel Shaw,	.	.	9		.	Mixed,	
26	Benjamin Shaw,	.	.	7		.	Mixed,	
27	Dora Turpel,	.	.	22	Webster: 23 Mechanic Street,	.	Mixed,	Burner left open; accidental.
28	Frank Simpson,	.	.	22	Boston: 7 Burroughs Street,	.	Mixed,	Burner left open; accidental.
28	Bertha E. Fairbanks,	.	.	33	Worcester: 11 Washington Avenue,	.	Mixed,	Gas inhaled through rubber tube attached to open burner; attempted suicide.
Mar. 4	David Hawthorne,	.	.	—	Fitchburg: 48 Boutelle Street,	.	Mixed,	Gas inhaled through rubber tube attached to open burner; attempted suicide.
4	Mrs. Lucy F. Hall,	.	.	54	} Malden: 81 Cross Street,	.	Mixed,	Affected with nausea and headache by gas from a leaky street main.
4	Gladys Hall,	.	.	19		.	Mixed,	

Non-fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Mar. 4	Mrs. Clyde Sanders and two sons.	-	Haverhill: 11 Pine Street, Bradford District.	Water, .	Company notified of a leak and found a man unconscious who had entered the cellar and disconnected pipes. Holmes overcame while attempting to get Grady out of building. Overcome by leak in main.
4	John Grady, .	-	Boston: 1218 Washington Street, .	Mixed, .	
4	George L. Holmes, .	-		Mixed, .	
5	Mrs. Dixon, .	84	New Bedford: 84 State Street, .	Mixed, .	Prepayment meter ripped off, leaving pipes open and gas escaping. These people were slightly affected.
10	Mrs. Demers and three children.	-	Lowell: 8 Joliette Avenue, .	Mixed, .	
10	Joseph Hauthier and two others.	-		Mixed, .	
12	Antone Macedo, .	-	New Bedford: 78 and 81 Independent Street.	Mixed, .	Ill from gas escaping from leaky street main.
12	Mrs. Macedo, .	-			
12	Arthur Macedo, .	-			
12	Clovis Macedo, .	-	Roxbury: 1049 Blue Hill Avenue, .	Mixed, .	Gas inhaled through rubber tube attached to open burner; attempted suicide. Gas inhaled through rubber tube attached to open burner; attempted suicide. Burner left open; accidental.
12	Leo Fecteau and three children.	-			
12	Louis Parquette, .	-			
12	Isaac Karvitz, .	44	Chelsea: 96 Chestnut Street, .	Mixed, .	Burner left open; accidental.
15	Isaac Horovitz, .	35	Haverhill: 182 Water Street, .	Water, .	
17	Fred Belanger, .	31			

20	Mary Murphy,	.	.	10	Jamaica Plain: 10 Haverford Street,	Mixed,	Nausea caused by gas escaping from tube which had become disconnected from gas stove.
20	Helen Murphy,	.	.	8			
20	Catherine Murphy,	.	.	7			
22	Mrs. Thomas S. McLean,	.	.	38	Medford: 457 Salem Street,	Mixed,	Affected by nausea and headache by gas from leaky main.
22	Isabelle McLean,	.	.	8			
22	Christina McLean,	.	.	10			
22	Mrs. M. N. Preeper,	.	.	37	Somerville: 38 Chester Street,	Mixed,	Burner of gas heater left open; attempted suicide.
22	Ruby Preeper,	.	.	10			
22	John O. Eddy,	.	.	20			
26	Mrs. Joseph Hamel,	.	.	—	New Bedford: 82 Holly Street,	Mixed,	Burner left open; parties slightly affected.
26	Alberta Hamel,	.	.	17			
31	Mrs. Edgar Seeley,	.	.	21			
31	Mollie Woods,	.	.	23	Lynn: 23 Court Street,	Mixed,	Burner left open.
April 4	Bronislava Sendroska,	.	.	25			
6	Frank Tukke,	.	.	—			
14	Michael Doyle,	.	.	—	North Adams: 291 West Main Street,	Mixed,	Burner of gas stove left open; accidental.
15	Kitty Levens,	.	.	—			
15	Mrs. Lilly Yoken,	.	.	—			
					Fall River: 100 Lowell Street,	Water,	Gas inhaled through rubber tube attached to open burner; attempted suicide.

Non-fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
April 16	P. F. Fall, . . .	50	Haverhill: Central House, . . .	Water, .	Burner left open; attempted suicide.
20	Mrs. Alice Porter, . . .	—	Fall River: 871 Eastern Avenue, . . .	Water, .	Burner left open; accidental.
24	John J. Dolan, . . .	43	Boston: 1 Riverside Street, . . .	Mixed, .	Burner left open; accidental.
30	Harry Atwood, . . .	—	Malden: 7 Linwood Street, . . .	Mixed, .	Burned by explosion of gas.
May 11	John H. Bell, . . .	68	Boston: 75 Astor Street, . . .	Mixed, .	Burner left open; attempted suicide.
12	John Leddington, . . .	42	Boston: 135 Appleton Street, . . .	Mixed, .	Burners left open; attempted suicide.
14	W. R. Chadwick, . . .	—	Malden: Eastern Avenue, . . .	Mixed, .	Firemen, slightly overcome by gas escaping from trench in which Daniel Smith was killed. McLaughlin and Burke, company employees, were burned about hands and face; a lantern having set fire to the escaping gas.
14	H. O. Rounds, . . .	—			
14	H. Noyes, . . .	—			
14	C. Needham, . . .	—			
14	G. Butler, . . .	—			
14	W. Leedham, . . .	—			
14	L. Keddie, . . .	—			
14	A. Keddie, . . .	—			
14	W. Moran, . . .	—			
14	Wm. F. McLaughlin, . . .	—			
14	R. Burke, . . .	—			

20	June	Emma Dinneen,	18	South Boston: 4 Flint Place,	Mixed,	Burner left open.
21		Mrs. Julius Goodman,	30	Worcester: 28 Providence Street,	Mixed,	Gas escaped from defective gas range.
30		Mrs. Ross,	-	} Malden: 72 Main Street,	Mixed,	Slightly affected with nausea by gas escaping from defective fixture.
30		Dorothy Ross,	-		Mixed,	
7		Patrick Walsh,	59	Worcester: 17 Barclay Street,	Mixed,	Gas inhaled through rubber tube attached to open burner; attempted suicide.
8		Mary White,	58	Haverhill: 12 Essex Street,	Water,	Burner left open; attempted suicide.
11		Vera Cogan,	-	Malden: 58 Henry Street,	Mixed,	Burner left open; attempted suicide.
14		Charles Stewart,	-	Weymouth: Columbian Square,	Water,	Company employee. While tapping a main was overcome.
20		Mrs. Kellam,	35	Lynn: 67 North Franklin Street,	Mixed,	Gas inhaled through rubber tube attached to open burner; attempted suicide.
24		Mrs. Elizabeth Parker,	-	Lowell: 57 Varney Street,	Mixed,	Gas escaped from leaky gas pipe.
30		Rose Brown,	-	Haverhill: 5 Merrimack Street,	Water,	Slightly affected by escaping gas in a store.
2	July	Alfred Bassette,	-	} New Bedford: 153 Whitman Street,		
2		Mrs. Bassette,	-			
2		Evelina Bassette,	15		Mixed,	Gas escaped from defective fixtures.
2		Yvonne Bassette,	13			
6		Mrs. Hilda Carlson,	-	Worcester: 193 Vernon Street,	Mixed,	Burner left open; attempted suicide.
8		James M. Killop,	45	Springfield: 68 Vernon Street,	Mixed,	Burner left open; attempted suicide.
9		Mrs. Katherine Boynton,	-	West Medford: 20 Grove Street,	Mixed,	Burned by explosion of gas range.
9		George Tinkham,	23	Brockton: 55 North Main Street,	Mixed,	Gas inhaled through rubber tube; attempted suicide.

Non-fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
July 13	John Haley, . . .	39	Somerville: 10 Dane Avenue, . .	Mixed,	ough rubber tube; at-
18	Mrs. Sarah Whitney, . .	-	Melrose: 50 Elliot Street, . .	Mixed, .	explosion of gas in range.
18	Mrs. Ora Baker, . . .	-	Haverhill: 468 Washington Street, .	Mixed, .	Burner left open; attempted suicide.
19	William F. Tripp, . . .	-	Fall River: 572 Locust Street, . .	Water, .	Burner left open; attempted suicide.
24	Thomas Carey, . . .	19	Boston: 604 Dorchester Avenue, .	Mixed, .	Gas inhaled through rubber tube; at-
Aug. 1	Francisco Lorongelo, . .	19	Worcester: 281 Shrewsbury Street, .	Mixed, .	tempted suicide. Burner left open.
2	Lillian V. M. Bowers, . .	-	Melrose: 297 Main Street, . .	Mixed, .	Burner left open; accidental.
2	Charlotte Van Meter, . .	-			
2	Edith R. Hall, . . .	-			
2	Mrs. Mary McCall, . . .	-	Haverhill: 14 Winter Street, . .	Water, .	Burners left open; attempted suicide.
5	Mrs. Nellie Freer, . . .	25			
6	John Dugan, . . .	-	Weymouth: 248 Washington Street, .	Water, .	Company employees. While tapping gas main gas escaped and the men were over-
6	Jerry Murphy, . . .	-			
7	Joseph Shackley, . . .	-	Medford: High Street, . . .	Mixed, .	Telephone employees. While working in a manhole were affected by escaping gas.
7	Daniel W. Shea, . . .	-			
11	Mary Blinski, . . .	20	Worcester: 2 Courtland Street, . .	Mixed, .	Burner left open.
13	Belle Conwell, . . .	56	Cambridge: 208 Pearl Street, . .	Mixed, .	Burner left open; attempted suicide.

15	William Sullivan,	.	.	—	Weymouth: 112 Washington Street,	.	Water,	Company employee. Was overcome by escaping gas while tapping a main.
15	Mrs. Mary Young,	.	.	30	Haverhill: 29 Fourteenth Avenue,	.	Water,	Gas inhaled through rubber tube; attempted suicide.
24	Mrs. Shay,	.	.	70	} Fall River: 158 Branch Street,	.	Water,	Burner of gas stove left open; accidental.
24	Dennis Shay,	.	.	35		.		
26	John Watson,	.	.	47	Lowell: 188 Tilden Street,	.	Mixed,	Gas inhaled through rubber tube; attempted suicide.
26	Nicholas Angelomus,	.	.	23	Boston: 719 Tremont Street,	.	Mixed,	Burner left open; accidental.
30	T. J. Cleary,	.	.	—	} Cambridge: 965 Cambridge Street,	.	Mixed,	Company employees. Burned when leaking gas was ignited by match.
30	J. A. Close,	.	.	—		.		
Sept. 3	Edmund Loranger,	.	.	18	Boston: 9 Union Park Street,	.	Mixed,	Burner left open; suicidal.
5	Nicholas Carsell,	.	.	32	Lowell: 4 Tyler Street,	.	Mixed,	Burner left open; accidental.
7	Mrs. Elizabeth Cabrel,	.	.	40	Lawrence: 61 Water Street,	.	Mixed,	Burner left open; accidental.
8	Abby B. Butterfield,	.	.	40	North Chelmsford: Dunstable Road,	.	Mixed,	Burner of gas plate left open; attempted suicide.
10	Mrs. Ida Seibel,	.	.	—	Haverhill: 23 Pecker Street,	.	Water,	Burner left open; accidental.
11	Josephine Lewis,	.	.	21	Brookline: 168 Brookline Avenue,	.	Mixed,	Gas inhaled through rubber tube.
11	Mrs. Mary Jerajapko,	.	.	—	New Bedford: 768 Acushnet Avenue,	.	Mixed,	Burner left open; attempted suicide.
16	John Brown,	.	.	35	} New Bedford: 59 Spring Street,	.	Mixed,	Burner left open; accidental.
16	Hector Garceau,	.	.	22		.		
19	Mrs. Marie Jenson,	.	.	52	Malden: 271 Washington Street,	.	Mixed,	Burner left open; accidental.
30	Chester A. Brown,	.	.	—	Fall River: 900 Plymouth Avenue,	.	Mixed,	Burner left open; attempted suicide.

Non-fatal Cases — Continued.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Oct. 1	Mrs. Catherine Murphy, .	—	Lawrence: 68 Park Street, .	Mixed, .	Burner left open; accidental.
5	Lathrop B. Lovell, .	23	Whitman: corner Pearl and Erin streets, .	Water, .	Company employee. Overcome while repairing a leaky drip.
8	Catherine F. Gorman, .	38	Worcester: 85 Summer Street, .	Mixed, .	Gas inhaled through rubber tube; attempted suicide.
9	James Jackson, .	23	Chelsea: 227 Chestnut Street, .	Mixed, .	Burner left open; accidental.
17	Mrs. Ellen F. Pryer, .	33	} Everett: 86 Bow Street, .	Mixed, .	Slightly affected with nausea and headache by gas entering cellar from a leaky main.
17	Veronica Pryer, .	12		Mixed, .	Removed arm from bracket fixture; attempted suicide.
21	Frank M. Gowan, .	37	Boston: 37 Worcester Square, .	Mixed, .	Lived in house where Miss Ruth Percival was asphyxiated and were affected by the escaping gas.
22	Stasso Deameter, .	21	} New Bedford: 314 Coggeshall Street, .	Mixed, .	Burner left open; accidental.
22	Forto Deameter, .	20		Mixed, .	Burners left open; attempted suicide.
23	Violet Crawford, .	23	Boston: 498 Columbus Avenue, .	Mixed, .	Arm removed from bracket fixture; attempted suicide.
24	Elizabeth Shanfield, .	65	Boston: 24 Balfour Street, .	Mixed, .	Burner of gas stove open; accidental.
27	Lawrence Nickerson, .	24	Boston: 71 Worcester Street, .	Mixed, .	Burner left open; accidental.
30	Hannibal H. Case, .	70	} Haverhill: 67 Webster Street, .	Water, .	Arm removed from bracket fixture; attempted suicide.
30	Mrs. Case, .	70		Water, .	Burner of gas stove open; accidental.
Nov. 1	Harry Young, .	48	New Bedford: 508 County Street, .	Mixed, .	Burner left open; accidental.
5	Mrs. A. L. Johnson, .	—	McIrose: 435 Main Street, .	Mixed, .	Gas inhaled through rubber tube; attempted suicide.
12	Annie McDonald, .	—	} Boston: 73 Empire Street, .	Mixed, .	Leak in pipe between sidewalk and house.
12	Effie McDonald, .	—		Mixed, .	

14	Margaret Sullivan,	26	Boston: 26 Amory Street, . . .	Mixed, .	Gas inhaled through rubber tube; attempted suicide.
15	James Driscoll,	18	Boston: 770 Massachusetts Avenue, .	Mixed, .	Burner left open; attempted suicide.
18	William Shields,	60	} Boston: 49 Bickford Street, . . .	Mixed, .	Burner left open; accidental.
18	James Green, .	45		Mixed, .	Burner left open; accidental.
21	F. H. W. Rutland,	70	Boston: 30 Williams Street, . . .	Mixed, .	Burner left open; accidental.
22	Sadie E. Austin,	32	Roxbury: 59 Windsor Street, . . .	Mixed, .	Burner left open; attempted suicide.
25	Frank Shepard,	35	New Bedford: Cushing Building, . .	Mixed, .	Gas inhaled; attached to gas tube; 3
27	John Kelley, .	33	Boston: 16 Fletcher Street, . . .	Mixed, .	Company employee. While making pipe connection was overcome.
28	Emeline Sharpe,	51	Cambridge: 252 Western Avenue, . .	Mixed, .	Tube became disconnected from gas heater. Her husband was fatally overcome at the same time.
28	Tony Aracoko,	-	} Pittsfield: 94 Wabconah Street, . .	Mixed, .	Burner left open; accidental.
28	Frank Muchaake,	-		Mixed, .	Burner left open; accidental.
29	Ellen Smith, .	70	Fall River: 980 County Street, . . .	Water, .	Burner left open; accidental. Husband was fatally overcome at the same time.
Dec. 1	Joseph Denery,	55	Lynn: 100 Buffum Street, . . .	Mixed, .	Burner left open; accidental.
2	John L. Hill, .	55	Worcester: 6 Wayne Street, . . .	Mixed, .	Tube attached to gas stove burned off allowing gas to escape.
3	Mrs. F. W. Jacobs,	84	Haverhill: 56 Park Street, . . .	Water, .	Burner of heater left open; attempted suicide.
4	Hymen Rosenfield,	27	Boston: 417 Harrison Avenue, . . .	Mixed, .	Burner left open; attempted suicide.
5	Thomas Hilbourne,	-	Everett: 10 Devens Street, . . .	Mixed, .	Burner left open; attempted suicide.
8	Charles F. Kingabury,	45	Boston: 92 Chandler Street, . . .	Mixed, .	Burner left open; attempted suicide.

Non-fatal Cases — Concluded.

Date.	NAME.	Age.	City or Town.	Kind of Gas.	Remarks.
Dec. 10	Maude Cole, . . .	26	Malden: 60 Upham Street, . .	Mixed, .	Affected with nausea and headache by leaking gas.
13	Louis Quintal, . . .	64	Worcester: 99 Fairmount Avenue, .	Mixed, .	Gas escaped through a leaky tube attached to stove.
13	Nora Powers, . . .	19	Boston: 23 Homestead Street, . .	Mixed, .	Burner left open; accidental.
15	Amelio Montori, . . .	20	} Boston: 4 Bartlett Place, . . .	Mixed, .	Burner left open; accidental.
15	Michael Canazione, . . .	26		Mixed, .	Burner left open; accidental.
15	Walter A. Richardson, . . .	22	Boston: 31 Bowdoin Street, . .	Mixed, .	Burner left open; accidental.
16	Mrs. Dora Herschon, . . .	32	Cambridge: 1195 Cambridge Street, .	Mixed, .	Gas inhaled through rubber tube; attempted suicide.
19	Benjamin F. Hubbard, . . .	27	Lynn: 136 Broad Street, . . .	Mixed, .	Burner left open; accidental.
24	Abraham Schauski, . . .	38	Boston: 4 Troy Street, . . .	Mixed, .	Inhaled gas through rubber tube; attempted suicide.
25	Minnie G. Comerford, . . .	26	Worcester: 21 William Street, . .	Mixed, .	Gas inhaled through rubber tube; attempted suicide.
26	Michael Moynahan, . . .	68	} Haverhill: 28 Harrison Street, . .	Water, .	When lighting gas, burner of gas range was accidentally turned on.
26	Daniel Moynahan, . . .	56		Water, .	Burner turned on; accidental.
26	Mary Burns, . . .	56	Fall River: 433 Ferry Street, . .	Water, .	Burner turned on; accidental.

ELECTRICITY.
Fatal Cases.

Date.	NAME.	Age.	City or Town.	Remarks.
Jan. 11	William Cameron,	-	Medford, Spring Street,	Company employee. While working on a pole received a shock.
Mar. 25	Martin J. Kelley,	32	Stoneham: Spencer Street,	Took hold of live wire with hands, receiving shock resulting in his death.
April 25	Erik G. Nordstrom,	23	Worcester: Monadnock Road,	n a pole came in ight wires.
May 1	Clarence L. Curtis,	-	Grafton: Grafton Centre,	insulator from a
25	Arthur Roberts,	-	Reading: corner Park and Mill streets,	When climbing tween 2,200 volt
27	Malcolm McKensie,	67	Lynn: Market Street,	Cause and manner of death indeterminate, but appar- ently received an electric shock.
June 1	Daniel Cameron,	33	Waltham: corner Pine and Newton streets.	While making line changes on 2,300 volt circuit re- ceived fatal injuries.
July 9	Louis Stone,	30	Leominster: corner Merriam Avenue and Orchard Street.	While working on fire alarm system came in contact with 2,300 volt circuit.
11	Florence Scully,	12	Cambridge: corner Norfolk and Broad- way.	Stepped on wire which had blown down in severe storm.
12	Clinton M. Holt,	32	Greenfield: Conway Street,	Company employee. While tying in wires received a shock.
Aug. 16	Edward Burns,	38	Brookline: corner Clinton Road and Druce Street.	While repairing conduits received a shock.
20	Massinino De Napoli,	25	Brookline: 188 St. Paul Street,	While at work on staging of a building came in contact with live wires.
23	James Keough,	71	Gardner: Town Farm,	Attempting to step over wires which had been blown down his foot caught in one of them and he received a shock.
28	Ellsworth R. Fleet,	31	Newton: corner Hovey and Washing- ton streets.	Company employee. While working on a pole received a shock.

Fatal Cases — Concluded.

Date.	NAME.	Age.	City or Town.	Remarks.
Sept. 6	David McEachern, . . .	27	Dorchester: opposite 722 Adams Street,	While removing cut-out boxes received shock.
19	Thomas F. Lehaney, . . .	25	Walpole: corner Common and Elm streets.	Company employee. While working on pole received shock.
Nov. 27	William E. Ollis, . . .	-	Milford: East Main Street, . . .	Company employee. While working on pole received shock.

Non-fatal Cases.

Feb. 7	R. G. Whittier, . . .	-	Boston: Edison Electric Light Station,	Company employee. Received burns from contact with wires.
16	Earl Stewart, . . .	-	Worcester: Electric Light Station, . . .	Company employee. While testing a meter received burns.
20	Arthur Isherwood, . . .	-	Hyde Park: 24 Clifford Street, . . .	Picked up a live wire lying in the street and received burns.
24	A. E. Smith, . . .	-	Haverhill: Pleasant Street, Bradford District.	Telephone employee; while at work on pole came in contact with electric light wires and was severely burned.
Mar. 27	E. Marcotte, . . .	-	Lowell: Chelmsford Street, . . .	Company employee. While working on a pole received shock and burns.
April 5	Ernest Belisle, . . .	6	Palmer: High Street, . . .	Received burns from a live wire which had been pulled down by moving of a building.
8	John J. Carty, . . .	-	Roxbury: opposite 62 Quincy Street, . . .	Telephone employee. Burned by contact with live wire.
10	Charles Hawkes, . . .	-	Malden: 212 Pleasant Street, . . .	Company employee. Badly injured by receiving a shock which caused him to fall fifteen feet.
17	Charles Devino, . . .	-	Greenfield, . . .	Company employee. Made contact with 2,300 volt wire, causing him to fall from pole.

23	Peter Lamothe, . . .	16	Fitchburg: Clarendon Street, . . .	Climbed a pole and touched a high voltage wire. Shock caused him to fall to the ground.
24	J. McKenzie, . . .	—	Walpole: Washington Street, . . .	While at work on a pole received burns.
May 21	L. Warren, . . .	45	Plainville, . . .	Employee of company. While changing wires received burns from 2,300 volt current.
25	Thomas R. Keene, . . .	—	Lowell: Forge Village sub-station, . . .	Company employee. Received slight shock and burns.
26	L. V. Urquhart, . . .	40	Boston: corner Somerset and Beacon streets.	Company employee. Making tests in a manhole, received severe burns.
27	William Richards, . . .	35	Hull: Power Plant, . . .	Company employee. While at work on lightning arrears received a shock causing him to fall.
June 4	Harry Payne, . . .	24	Hull: corner Nantasket Avenue and V Street.	Company employee. Burned by contact with live wire.
5	Leslie Owen, . . .	—	Haverhill: 30 Warren Street, Bradford District.	While spraying trees came in contact with live wire and was severely burned.
7	Daniel Ahearn, . . .	—	West Warren, . . .	Employee of company. Received slight burns by coming in contact with live wire.
8	Willard Murray, . . .	23	Kingston: Kingston Landing, . . .	Telephone lineman. While at work on pole came in contact with live electric light wire. Burned and bruised by fall.
19	F. H. Sullivan, . . .	—	Holyoke: Sargeant Street, . . .	Employee of municipal light plant; came in contact with live wire. Burned and injured by fall from pole.
25	Edward Tobey, . . .	—	Fall River: Linden Street, . . .	Company employee. Received burns by coming in contact with live wire.
July 5	Bert Sawyer, . . .	—	Revere: Electric Light Station, . . .	Company employee. While engaged in testing for grounds came in contact with live wire.
10	F. H. Ridley, . . .	—	Haverhill: corner Groveland and Waters streets.	Company employee. Received slight burns from a live wire. Burned and hurt by fall.
10	Marion Weld, . . .	—	Sturbridge, . . .	Picked up live wire which was lying in the street; received slight burns.
11	George Austin, . . .	—	Worcester: 1 Ledge Street, . . .	Company employee. Received severe burns from live wire.
14	Eleanor Scully, . . .	8	Hamilton: Maple Street, . . .	Burned by taking hold of a live wire which had burned off and was hanging down.
25	James H. O'Connell, . . .	31	Watertown: Eliot Street, . . .	Company employee. While tightening globe on arc lamp pole hurt by fall caused by an electric shock.

Non-fatal Cases — Concluded.

Date.	NAME.	Age.	City or Town.	Remarks.
Aug. 2	J. W. Stevenson,	28	Dedham: Maple Street,	Company employee. Received slight burns while tying in a service.
3	J. V. M. Noye,	-	Lowell: Middlesex Street,	Picked up a live wire thereby receiving shock and burns.
3	Augustus J. Moran,	-	Chelsea: corner Washington Avenue and Cheever Street.	Touched an arc lamp weight and received a shock.
9	Elery Barnaby,	16	Haverhill: Salem Street, Bradford District.	Climbed a pole and walked on cable, keeping hold of electric light wire above head; thrown to the ground by shock.
9	Walter Newman,	-	Malden: Electric Light Station,	Received shock and burns while tying wires to insulators.
10	Hugh J. Ward,	39	Dorchester: rear 22 Edmond Street,	Company employee; received shock and burns while changing wires and transformers.
14	George H. Eddy,	-	Randolph: North Main and Liberty streets.	Received shock by forming circuit between electric switch and handle of refrigerator door.
14	Edward J. Beatty,	58	Canton: Washington Street, near Dedham Road.	Company employee; received shock and burns.
16	James H. Shaw,	36	Dedham: East Street,	Company caused injuries from a fall lamp into socket receiving shock while repairing.
20	Francesco Colechi,	-	Millford: 55 East Main Street,	Received shock while tying in wire.
22	William Pendergast,	27	Chelsea: corner Arlington and Second streets.	Received a shock while painting an electric light pole; came in contact with live wire.
23	Charles Rockefeller,	-	Sheffield,	Company employee; burned on hand while making line repairs.
28	Richard E. Kelley,	33	Boston: Park Square,	Company employee; received shock and burns.
Sept. 10	Harry W. Hadlock,	24	Walpole: Edison Power Station,	
12	Harry B. Bullen,	36	Hopkinton: Edison Power Station,	Company employee; received slight shock and burns while working on a machine.

13	Charles E. Richards,	.	-	North Adams: West Main Street,	Telephone lineman; came in contact with live electric light wire, received a shock which caused him to fall to the ground.
14	H. W. Heath,	.	-	South Groveland: Washington Street,	Company employee; received injuries from a fall caused by an electric shock.
16	George W. Putney,	.	33	Boston: 24 Mt. Vernon Street,	Company employee; received shock and burns.
17	Warren J. Minton,	.	21	South Boston: Edison Electric Light Station.	Company employee; received shock and burns.
21	Frank McDonald,	.	-	Newburyport: corner State and Essex streets.	Company employee; while lowering lamp to ground received slight shock.
24	R. H. Ward,	.	32	Dorchester: Washington Street,	While cutting down a tree in some way received a shock from an electric light wire.
Oct. 19	Thomas Gammon,	.	-	Haverhill: corner River and Varnum streets.	While repairing wires came in contact with live wire, receiving burns.
22	George Hughes,	.	29	Boston: Eliot School, North Bennet Street.	Company employee; while testing a meter burned left hand.
24	Andrew O'Neil,	.	25	Millis: corner Green and Village streets,	Received slight shock.
24	Wilford Morrison,	.	27	Waltham: corner School and Exchange streets.	A lineman; while at work received shock and burns.
24	F. J. Coleman,	.	-	Milford: Daily News Office,	A secondary wire broke grounding machine on which Mr. Coleman was working; received shock and slight burns.
Nov. 2	Raymond L. Jenks,	.	24	Greenfield: Federal Street,	Temporarily blinded and eyes irritated by flash from electric wires.
4	Hubert Maguire,	.	10	Watertown: Patton Street,	Playing with some wires received a shock which caused burns on face and hands.
30	Benjamin Rich,	.	39	Boston: 46 Lincoln Street,	Company employee; received slight shock which caused burns.
Dec. 20	Thomas J. Egan,	.	22	Malden: Jackson Street,	contact with 2,300 volt , on pole; slightly burned.
21	Andrew Melanson,	.	-	Revere: Ocean Avenue,	severe burns by coming fire.

APPENDIX H.—SPECIAL REPORTS TO THE LEGISLATURE.

IN BOARD OF GAS AND ELECTRIC LIGHT COMMISSIONERS,
BOSTON, Jan. 15, 1912.

To the Honorable Senate and House of Representatives in General Court assembled.

At the legislative session of 1910 the following order was adopted and transmitted to this Board:—

Ordered, That the Board of Gas and Electric Light Commissioners shall investigate the operation of demand indicators, so called, used by electric light companies, and shall determine whether or not it is expedient to regulate or prohibit the use of such meters. Said Board shall report on this subject not later than January 15.

Pursuant to this order the Board has made the investigation directed and, in connection therewith, on the sixth and twenty-seventh days of October, 1911, gave public hearings to all persons interested. Due notice of these hearings was given by publication in the Boston press and also to the persons who introduced the legislation which gave rise to this order, to the members of the Committee on Mercantile Affairs of the Legislature of 1911, who reported the order, to the mayor or selectmen of all municipalities in which electric light companies are engaged in business, to certain business and civic associations who have been accustomed to interest themselves in such questions and to the electric light companies.

In addition to the information developed at these hearings, the Board has directed inquiries to all the companies and municipalities engaged in the sale of electricity, relative to the extent and purpose of the use of demand indicators and the means employed to ensure their accuracy. It has also employed Prof. F. A. Laws of the Massachusetts Institute of Technology to make an examination into and report upon the mechanical and technical features of these appliances and to conduct a series of tests of Wright demand indicators, which are largely used by the Edison Electric Illuminating Company of Boston.

His report in full, except the appendix thereto, which may be consulted at this office, constitutes Appendix A of this report.

As a result of its investigation, the Board respectfully submits its report as follows:—

USE OF DEMAND INDICATORS.

Upon inquiry of the companies and municipalities making returns to the Board, it appeared that 69 companies and 23 municipalities had no demand indicators in use on June 30, 1911. Twelve companies and 4 municipalities had 11,613 demand indicators in use on that date, but of these 10,745 belonged to the Edison Electric Illuminating Company of Boston, 303 to the Haverhill Electric Company, 291 to the Malden Electric Company, 86 to the Norwood Municipal Plant, 71 to the Salem Electric Lighting Company, 53 to the Lowell Electric Light Corporation, 21 to the Fitchburg Gas and Electric Company, 17 to the Worcester Electric Light Company and the remaining 26 to the other 5 companies and 3 municipalities. Of the demand indicators in use, 11,447 were of the type known as "Wright Maximum Demand Indicators," 95 were of the type known as "Ingalls Relay Demand Indicators," and 71 of the type known as "General Electric Maximum Watt Demand Indicators, Type W." The Edison Company of Boston owned 10,745 of the Wright demand indicators and all of the Ingalls relay indicators.

One or two companies have recently installed an appliance known as an "excess indicator," which causes a noticeable interruption of service if more than a certain prearranged amount of electricity is required by a customer at any one time. One company had 250 of these appliances in use on June 30, 1911. Such an "excess indicator," however, is not a "demand indicator," as this term is ordinarily used. It does not measure anything or determine any factor used in fixing the charge made for electricity supplied to the customer, but serves to limit merely his use of the supply. For these reasons the Board has not included such "excess indicators" in its investigation.

DEMAND INDICATORS AND THEIR OPERATION.

In the report made to the Board by Professor Laws, a copy of which is hereto annexed, entitled Appendix A, descriptions are given of the three types of demand indicators in use as above described. These descriptions are accompanied by sketches of the

devices and explanations of their operation when in service, and are as concise as is consistent with clearness. It seems unnecessary to repeat them here, but to refer those desiring to know the technical details of their mechanism and operation to his report.

The Wright demand indicator, as will be seen by reference to his report, is in appearance a metal box with an index tube and scale exposed to view and its working parts enclosed. It is designed to register automatically by the rise of the liquid in the exposed index tube when a sufficient time to ensure its complete operation is allowed the volume of electric current delivered. In a two-wire service one such indicator is installed on the customer's side of the recording watt hour meter, and in a three-wire service two indicators are so installed, one on each side of the neutral wire. Once installed it will register the greatest volume of current passing through it at any one time without, however, leaving any trace as to the time when this occurs. The registration is in amperes, the technical unit of current strength or rate of delivery. In order to ascertain the power required by the customer at the time of the highest registration of the instrument, the amperage thus registered must in direct current use be multiplied by the voltage at which electricity is delivered to that service. The result in watts is often spoken of as the customer's demand. In practice, immediately after the reading of this instrument is made and noted by the reader, it is reset by him. No trace of its indication remains and no opportunity exists for the subsequent verification of the same. This type of indicator costs less than other types, is inexpensive to operate and hence its more extensive use.

It is intended that approximately 90 per cent. of the registration of the volume of current introduced into the indicator shall be accomplished in four minutes, and the entire registration in about forty minutes. A fair approximation of the final registration, say 85 per cent., occurs more promptly when the indicator is worked at about its full capacity than when it is lightly loaded. Each indicator has its characteristic rate of response to the current. Owing to differences in the tubes it is impracticable to use any printed standard scales for the different sizes of indicators. Each must be graduated by experiment to fit the particular tube to which it is applied.

In the case of the Edison Company of Boston, demands on direct current services and on alternating current services where the load is non-inductive, as for illustration without alternating current motors, are determined by the Wright demand indicator, except

in cases where electricity is sold under schedules D and D-1¹ of the rates of that company now in force.

The Ingalls relay demand indicator is an auxiliary to the watt hour recording meter which registers the amount of electrical energy actually delivered to a customer. Such a recording watt hour meter is essentially a miniature motor driven by the current passing through it. In the Ingalls demand indicator the disc driven by this miniature motor in turn drives another wheel at a slower speed, and the revolutions of this wheel are recorded on a tape drawn at an even speed by clockwork. By this mechanism a continuous record is made by which the customer's demand can be computed and determined for any hour of the period for which the indicator is set. This instrument is far more expensive to purchase and maintain than the Wright demand indicator, and is used by the Edison Company of Boston alone and only in connection with customers purchasing electricity under what is known as the "permanent electric rate" schedule. (See Appendix B, schedules D and D-1.)

The General Electric Type W watt demand indicator is in outward appearance a watt hour meter, but, in place of the dials and hands by which the number of watt hours is recorded, there is but one dial with two hands and a scale registering in kilowatts from zero up, according to the capacity of the indicator. It is designed for use on alternating current circuits and for polyphase work only. In addition to the mechanism ordinarily found in a watt meter of the induction type, a second disc mounted on the same spindle rotates between two sets of magnets so arranged as to retard the speed at which the spindle may rotate in response to variations of the load. By a system of gearing the first hand is driven over the dial according to the amount of electrical power delivered, and pushes ahead of it a second hand, which is provided with a ratchet that holds it at the highest point to which it is pushed. At every diminution of the load the first hand falls back towards zero. This instrument records the greatest demand in kilowatts made by the customer at one time, but gives no indication of the time when it occurs; it is intended that the magnets be so set that 90 per cent. of the registration is attained in five consecutive minutes. The original cost and expense of maintenance of this type is much greater than that of the Wright demand indicator already described.

¹ See Appendix B.

MECHANICAL ACCURACY IN ACTUAL USE.

Of the 16 companies and municipalities using demand indicators, 10 reported that they tested the appliances before installation and 6, that they did not. Eight reported that no tests of the appliances were made after they were installed, 3 made occasional tests, 3 tested the appliances whenever a customer demanded such test and 2 made periodic tests. Of the 2 making periodic tests, one had but two demand indicators in use and these were tested once a year. The other, the Edison Company of Boston, examines and tests the indicators before installation. After installation this company has a system of routine inspection by which one-quarter of the number in use are returned to the company's laboratory every year for verification and such correction and repairs as may be found necessary. During the year ending June 30, 1911, this company reports that 2,830 indicators were removed from the customers' premises in this regular routine and were tested. In addition all new indicators purchased and all indicators removed from customers' premises for reasons other than in the regular routine were tested when brought in and the total number of all tests of such indicators during that year was 4,184.

As already stated, Professor Laws made a series of tests of the Wright maximum demand indicators in use by the Edison Company of Boston in order to ascertain their accuracy under ordinary service conditions. Eighty-one indicators of sizes varying from 5 to 300 amperes were selected by him at random, removed from the premises where installed in his presence or in the presence of his assistant, taken to the Standardizing Laboratory of the Massachusetts Institute of Technology and there tested.

His report of these tests is as follows:—

At the laboratory the indicators of a given size were set up and connected in series; currents, either direct or alternating, as the case required, and of the proper magnitude, were sent through them and maintained constant until the readings assumed their ultimate values. The currents were measured by the use of standards certified by the United States National Bureau of Standards at Washington, D. C.

The points selected for calibration were: first, 20 per cent. and 90 per cent. of the full scale reading, the former because it is usually the first mark on the scale, the latter because it is desirable to be able to state the inaccuracy at the upper end of the scale if the indicator should register too much; second, two intermediate points at about 43 per cent. and 66 per cent. were taken, thus dividing the interval between 20 per cent. and 90 per cent. about equally. Tests were made at these

four points and then, in order to obtain a check measurement, the whole series was repeated. All tests were made at a room temperature of 68 degrees F., unless otherwise specified.

As the 20 per cent. loadmark is the first one on the scale, no numerical reading is possible unless the indicator is correct or reads too much; so in the first table following it is simply noted whether the reading is too large, correct or too small. The average registration of those indicators which register too much at this point is 113.5 per cent. If those registering correctly be included, the average is 108.7 per cent. The readings at the lower end of the scale are considerably influenced by temperature: for instance, four indicators of 35 amperes capacity were set at 68 degrees F., and then the temperature raised to 104 degrees F., and kept there for four hours, no current being sent through the indicators; the average rise of the liquid in the indicator tubes was .52 inch, which roughly corresponds to a change of reading of 5 amperes at this point. These extremely low readings are not, however, of as great importance as those at the upper end of the scale. For example, it happens that the average percentage reading of the indicators when removed for test was approximately 60 per cent., with an occasional value falling as low as 30 per cent. The effect of temperature becomes smaller as the readings increase.

The following tables show the results of the tests: —

At 20 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	NUMBER OF INDICATORS WHICH REGISTER TOO —		Number which register correctly.
	Much.	Little.	
5,	6	2	0
10,	3	3	4
15,	5	3	2
25,	5	4	1
35,	1	3	0
50,	7	2	1
75,	3	4	3
100,	3	1	1
150,	3	0	4
200,	0	2 ¹	4 ¹
300,	0	1	0
Totals,	36	25	20

¹ At 25 per cent. load being first mark on scale of this indicator.

44.5 per cent. of the indicators register too much. The average excess registration is 13.5 per cent.
30.9 per cent. of the indicators register too little.
24.7 per cent. of the indicators register correctly.
Average excess registration of indicators which register correctly and too much, 8.7 per cent.

At 43 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	NUMBER OF INDICATORS REGISTERING —						
	110 Per Cent. and More.	109.9-105.1 Per Cent. inclusive.	105-102 Per Cent. inclusive.	101.9-98.1 Per Cent. inclusive.	98-95 Per Cent. inclusive.	94.9-90.1 Per Cent. inclusive.	90 Per Cent. and Less.
5, . . .	0	0	2	4	2	0	0
10, . . .	0	2	2	4	0	1	1
15, . . .	0	0	3	3	4	0	0
25, . . .	0	0	2	6	1	1	0
35, . . .	1	0	2	0	0	1	0
50, . . .	3	3	2	1	0	1	0
75, . . .	1	0	1	4	4	0	0
100, . . .	0	1	2	2	0	0	0
150, . . .	1	3	0	2	0	1	0
200, . . .	0	0	0	5	0	1	0
300, . . .	0	0	0	0	0	0	1
Totals, .	6	9	16	31	11	6	2

71.6 per cent. of the indicators register between 95 per cent. and 105 per cent.
18.5 per cent. of the indicators register more than 105 per cent.
9.9 per cent. of the indicators register less than 95 per cent.

At 66 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	NUMBER OF INDICATORS REGISTERING —						
	110 Per Cent. and More.	109.9-105.1 Per Cent. inclusive.	105-102 Per Cent. inclusive.	101.9-98.1 Per Cent. inclusive.	98-95 Per Cent. inclusive.	94.9-90.1 Per Cent. inclusive.	90 Per Cent. and Less.
5, . . .	0	0	1	2	4	1	0
10, . . .	0	1	3	4	1	1	0
15, . . .	0	0	2	2	6	0	0
25, . . .	0	0	1	7	1	1	0
35, . . .	1	0	1	1	1	0	0
50, . . .	2	1	4	3	0	0	0
75, . . .	1	0	4	3	2	0	0
100, . . .	0	1	2	2	0	0	0
150, . . .	1	1	2	2	1	0	0
200, . . .	0	0	2	4	0	0	0
300, . . .	0	0	0	0	0	1	0
Totals, .	5	4	22	30	16	4	0

84.0 per cent. of the indicators register between 95 per cent. and 105 per cent.
11.1 per cent. of the indicators register more than 105 per cent.
5.0 per cent. of the indicators register less than 95 per cent.

At 90 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	NUMBER OF INDICATORS REGISTERING —						
	110 Per Cent. and More.	109.9-105.1 Per Cent. inclusive.	105-102 Per Cent. inclusive.	101.9-98.1 Per Cent. inclusive.	98-95 Per Cent. inclusive.	94.9-90.1 Per Cent. inclusive.	90 Per Cent. and Less.
5, . . .	0	0	1	5	1	1	0
10, . . .	1	0	1	5	2	1	0
15, . . .	0	0	1	7	2	0	0
25, . . .	0	0	1	6	2	1	0
35, . . .	0	2	0	2	0	0	0
50, . . .	0	3	4	2	1	0	0
75, . . .	1	0	1	6	2	0	0
100, . . .	1	1	0	3	0	0	0
150, . . .	2	0	3	0	2	0	0
200, . . .	0	0	3	3	0	0	0
300, . . .	0	0	0	0	0	1	0
Totals, .	5	6	15	39	12	4	0

81.5 per cent. of the indicators register between 95 per cent. and 105 per cent.
13.6 per cent. of the indicators register more than 105 per cent.
5.0 per cent. of the indicators register less than 95 per cent.

Disregarding the readings obtained at 20 per cent. load for the reasons suggested by Professor Laws, and applying the same rule as provided by law for electric meters, namely, that the instrument be deemed correct if it does not vary more than 5 per cent. from the standard, it appears that of the 81 indicators tested at 43 per cent. load, 58 were correct, 15 registered too much and 8 too little, and at 90 per cent. load, 66 were correct, 11 registered too much and 4 too little.

PURPOSE FOR WHICH USED.

In every instance where demand indicators are employed they are used to determine the greatest demand a customer makes during a given period upon the capacity of the generating plant and distributing system by which he is served. In several cases this demand is ascertained solely for the private information of the management of the company as an aid to determine the size of transformers, meters or conductors. In others it is used as a check upon a demand determined or estimated in some other way. In the majority of instances the maximum demand of the customer ascertained by these indicators is one factor, and often

an extremely important factor, to the customer in the charge made him for his supply of electricity.

Two methods of utilizing the customer's maximum demand are employed in making their charges by companies and municipalities using demand indicators. Some make a definite fixed charge per kilowatt of maximum demand and an additional charge per kilowatt hour for electricity consumed. Others charge the equivalent of a certain number of hours' use of the demand per month at one price and all in excess thereof at a lower price or prices.

The Edison Company of Boston employs both of these methods. In its so-called "yearly lighting rates," and "permanent electric rates," a fixed yearly price payable in equal monthly instalments is charged for each kilowatt of maximum demand, and in addition a price is charged for each kilowatt hour of electricity consumed. In its "power rates" all electricity furnished up to twenty-three hours' use per month of the customer's maximum demand is charged at 12 cents per kilowatt hour, and lower prices and discounts are made for all electricity consumed per month in excess thereof. The demand in the "yearly lighting rates" for each year, beginning the first of February, is the highest reading of the demand indicators during the preceding three months, and in the "power rates," the average of such readings during the preceding four months. The demand in the "permanent electric rates" is fixed in the first instance by agreement with the customer, but must be at least 50 kilowatts; a continuous record of the demand is recorded by the Ingalls indicator, already described, and the charge made accordingly.

EXISTING PROVISIONS OF LAW.

In 1901 the Legislature enacted chapter 497, entitled "An Act to provide for the Inspection of Electric Meters." The provisions of this chapter are now sections 36 (amended by chapter 348 of the Acts of 1911), 37 and 38 of chapter 121 of the Revised Laws. These sections read as follows:—

SECTION 36. A customer of an electric lighting company or such company may apply to the board of gas and electric light commissioners for an examination and test of any meter in use upon a customer's premises. The board shall forthwith cause to be made by a competent and disinterested person such examination and test of said meter as in the judgment of the board is practicable and reasonable, and shall furnish to the company and to the customer a certificate of the result and ex-

pense thereof. If upon such examination it appears that the meter does not register correctly, the board may order the company to correct or remove such meter and to substitute a correct meter therefor. All fees for examinations and tests shall in the first instance be paid by the person or company making application therefor; but if the examination or test is made at the request of a customer and the meter is found to be incorrect because too fast, the company shall pay such fees to the board, to be repaid by it to the applicant. A meter shall be deemed correct for the purposes of this section if it appears from such examination or test that it does not vary more than five per cent. from the standard approved by the board.

SECTION 37. The person designated to make such inspection may at any reasonable time enter upon any premises where the meter to be inspected is placed, for the purpose of making the inspection. He shall receive such compensation for his services as the board may determine, together with his necessary travelling and other expenses, which shall be audited by the board and paid from the treasury of the commonwealth; but the total amount of compensation and expenses shall not exceed three thousand dollars in any year; and if the total amount of such compensation and expenses shall in any year exceed the amount of the fees received for such examinations and tests, the excess shall be assessed and recovered from the electric light companies in the manner now provided for the assessment and recovery of the other expenses of the board. All money received for fees for such examinations and tests shall be paid into the treasury of the commonwealth by the board quarterly on the first Mondays of January, April, July and October of each year.¹ The board may establish such rules and regulations, fix such standards, prescribe such fees and employ such means and methods in, and in connection with, such examinations and tests of electric meters as in the judgment of the board shall be most practicable, expedient and economical. The board may purchase such materials, apparatus and standard measuring instruments for such examinations and tests as it may deem necessary.

SECTION 38. In the two preceding sections the word "company" or "companies" shall include every person, partnership, association, corporation and municipality engaged in the sale of incandescent electric light or electricity for incandescent lighting.

In administering this law the Board has always construed it as applying to meters measuring the electrical energy delivered to the customer. No application was made to the Board prior to 1910 for the examination and test of demand indicators under the claim that they are "meters" within the meaning of the provisions of these sections. The Board had then and still has serious doubts

¹ By chapter 318 of the Acts of 1909, on the last business day of each month.

whether the Legislature intended to include "demand indicators" or any similar device by the use of the word "meters."

In 1909 chapter 412 entitled "An Act relative to the Adjustment, Testing and Sealing of Weighing and Measuring Devices used for Hire or Reward," it is provided as follows: —

SECTION 1. The provisions of chapter sixty-two of the Revised Laws, relating to the adjustment, testing and sealing of weights, measures and balances shall apply to all weighing and measuring devices used for the purposes of weighing and measuring for hire or reward.

SECTION 2. A sealer or deputy sealer shall seal such devices when they are tested and found correct, and shall mark, condemn, or seize such devices if found incorrect, in accordance with the provisions of said chapter sixty-two applicable to weights, measures and balances; and all penalties imposed by said chapter for violation of the provisions thereof relative to weights, measures and balances shall also apply to the devices aforesaid.

At the hearings it was suggested that "demand indicators" were "measuring devices" within the meaning of this chapter. The Board was also informed that this claim had been made to the Commissioner of Weights and Measures and that he had been requested to test and seal a demand indicator installed by the Edison Company of Boston upon the premises of one of its customers. The Commissioner of Weights and Measures requested an opinion of the Attorney-General as to his duties and authority with respect to the matter, but no ruling has been made prior to the date of this report.

CONCLUSIONS AND RECOMMENDATIONS.

At the hearings held by the Board, aside from the representations and arguments presented in behalf of the companies in favor of the continuance and desirability of the use of demand indicators, there was a considerable variance in the view expressed. One of the chief advocates of the legislation proposed at the last session of the General Court, which gave rise to this investigation, favored legislation for the periodic examination, sealing and testing of demand indicators in similar manner to the adjustment, testing and sealing of weights, measures and balances. His complaint was chiefly as to the accuracy of the Wright demand indicators in use by the Edison Company of Boston and not to the use made of the demand, if correctly determined, in the company's system of rates. Another customer of the same company complained as

earnestly, not of the possible inaccuracy of the indicators, but of the system of charging based on the demand of the customer determined by the use of indicators or, for that matter, in any other way. Other large users of electricity supplied by the same company under its system of differentials sent their representative to advocate the continuance of the use of demand indicators and of the demand system of charging, claiming that a differential scale of prices in the sale of electricity is reasonable and necessary. Still others, representing residential sections of the city, upon finding that demand indicators were used by the Edison Company only with respect to customers paying a price per kilowatt hour less than the standard or maximum net price offered to all customers for any use, restricted their opposition to demand indicators to their use in residences.

In the explanation which has been made with respect to the character of these appliances and the purpose for which they are used in the supply of electricity, it is hoped that the Board has made clear that, so far as concerns the customer, they help to ascertain one factor in what is known as a demand system of charge. Where such a system prevails a certain price is made for the customer's demand, however determined, as distinguished from, and usually in addition to, the price made for the electricity consumed measured by a watt-hour recording meter. It is perhaps obvious that where such a system of charge prevails, as the ratio of a customer's consumption to his demand for any given period increases, the average cost per unit of the electricity consumed decreases, and that consequently two customers having the same demands but unequal consumptions of electricity for a given period will pay different average prices for their respective supplies, even though each pays the same price per kilowatt of demand and the same price per kilowatt hour consumed. This is of course describing the system in its essential and simplest form and not with respect to any of the varied applications of the system which appear in the rate schedules of the companies and municipalities using it, especially those of the Edison Company of Boston.

In other words, the use of demand indicators is directly and intimately associated with differential rates for electricity. In fact there is no occasion for their use except to secure, through the relation of consumption to demand, prices lower than the standard or ordinary prices charged by the company. To put the matter more concretely, the Edison Company of Boston reported that its customers numbered 28,321 on June 30, 1911, and yet it has but

10,745 demand indicators in use. Although the demand in the case of alternating current power customers is for the most part determined otherwise than by demand indicators, it is a fair inference from these figures that nearly 70 per cent. of the company's customers cannot take advantage of the differential rates, but must pay the maximum net price and there is, therefore, no occasion for using demand indicators in supplying them. It follows that of all customers only the comparatively small minority who get the benefit of differential rates, and who to a considerable extent are not dependent upon the companies for their supply, are the ones who are directly interested in the use of demand indicators. The large majority of customers are dependent on the companies for their supply, but are not directly interested in the demand indicator except as by its use or by the prohibition or restriction thereof a lower maximum price for electricity may be secured to them.

In 1908, after an investigation of the Edison Company's rates, in the course of which the demand system, then far more extensively applied by the company, was explained and discussed, the Board, while unable to accept the company's theory in justification for differential rates, recognized the commercial necessity in the present development of the industry of making prices for large or long-hour users of electricity, whether for light or power, sufficiently low to attract the business. The problem of the company was to increase its output without a proportionate increase in investment. This could be accomplished, however, only through far more extended and varied applications of electricity which would bring the company into very direct competition with the cost to prospective customers for light, heat or power otherwise obtainable. In fact, as the Board then stated, the only means by which the average lighting customer may hope to have the price to him materially reduced is through such development of the company's business. The price at which electricity can be offered was and still is an essential feature in the solution of this problem. The Board at that time made no recommendations as to the differential features of the company's schedules, but recognized "as existing certain economic conditions attending the sale of electricity which, in the interest of the many whose needs and convenience the company should serve, seem to warrant a continuance of certain differences in prices, not as a permanent policy, but until the uniform rate recommended can, from time to time, be safely reduced so

low as to be in itself an encouragement to the unrestricted use of electricity for all purposes.”

The Board has found no sufficient reason for changing the views then expressed. It has, both with respect to the Edison Company and all others under its supervision, consistently pursued the policy, by the exercise both of its authority and its influence, to force reductions in the maximum prices at which any person in the territory occupied by any company may be supplied with electricity for any use. At the same time it has as consistently declined either to direct changes in, to endorse or to condemn differential prices offered by the companies, insisting however that all prices shall be open to all who may apply for service and that special and secret rates and direct or indirect rebates or preferences shall be discontinued.

The demand system of rates is, of course, not the only system employed for making differential prices. The present way in which the demand system of the Edison Company of Boston is applied is by no means the only way in which such a system may be used. For that matter, demand indicators may not be essential to a demand system of rates, although no satisfactory mechanical substitute for them in that relation is known to the Board. After carefully noting the various schedules of rates of the companies under its supervision and their effect upon revenues, output and operating efficiency, two things are evident, namely, that the men engaged in the business seem agreed upon the present necessity for differential rates, and yet that there is no general agreement among them as to the theory or practice upon which such differential rates should be based. The Board believes that the available experience is not yet sufficient for reaching any just or final conclusion as to the expediency of prohibiting or restricting differential rates. The use of demand indicators, as already pointed out, is so intimately involved in this problem that, for like reasons, it seems at present inexpedient to prohibit or restrict their use. On the other hand, the Board is emphatically of the opinion that it is not in the public interest that any legislative sanction or approval, directly or indirectly, shall be given to differential rates.

With respect to the “regulation” of demand indicators, the Board has assumed that this expression in the order refers to some means of ensuring their accuracy. The description given of the various types of indicators in use has perhaps made evident some of the difficulties attendant upon applying to them the same rules

for adjustment, testing and sealing as apply to weights, measures and balances or even to gas meters. The calibration of the Wright demand indicators prior to installation, for reasons already set forth in the description of this type, fairly constitutes a part of the initial cost of these instruments. The correct adjustment of the other types prior to installation is a necessary incident to their use. But in each instance, owing to the character of the mechanism and the necessary manipulation of the device from time to time by the companies' employees, there is no practicable method of sealing them prior to installation with any assurance that their operation in use may not be altered or affected by changes in surrounding conditions without detection. No satisfactory test of the Wright demand indicators especially can be made upon the premises where installed, due to the impracticability of keeping the conditions necessary for such test constant.

Any provision of law requiring the examination, testing and sealing of demand indicators by a public official must necessarily rest upon a purpose to protect purchasers of electricity from overcharging by the use of indicators allowed to operate incorrectly. To be effective to this end, the method of inspection employed either must reasonably assure the customer that the operation of the indicators after installation by the seller cannot be readily altered or otherwise affected without detection while the same are in use upon his premises, and before another examination and test is made by the public official charged with his duty, or must provide a heavy penalty whenever the seller is found to be employing and maintaining an indicator operating incorrectly and adversely to the customer. The examination of demand indicators made by the Board has convinced it that, if properly constructed, and calibrated, and properly handled and inspected by the companies' employees while in use upon customers' premises, they may be expected to operate correctly within certain reasonable limits. On the other hand, the Board is equally convinced that it is not practicable to test and seal these appliances in the manner long pursued with respect to gas meters, or to apply the methods employed in the periodic adjustment, examination, testing and sealing of balances, weights and measures. Any attempt to do so would also involve an expense and the organization and maintenance of an inspection force hardly commensurate with the possible good accomplished, especially in view of the limited number of demand indicators in actual use and of the fact that reductions in the maximum net price charged for

electricity tend to further reduce this number. It has also been the experience of the Board that the chief complaint is not with the mechanical accuracy of the device itself, but rather with the system of charging in which it is used. No amount of examination and testing will satisfy every customer who complains of a demand recorded for a brief period, of which he has no personal knowledge, but which is made the basis of the charge to be made him for the succeeding year of his supply. This is an inherent difficulty with any system of rates based upon a maximum demand mechanically determined, but the same or greater difficulties arise in ascertaining the demand in any other way known to the Board.

The Board recommends that the provisions of sections 36, 37 and 38 of chapter 121 of the Revised Laws be extended to demand indicators and all other mechanical devices and appliances used in determining the charge to be made by companies and municipalities supplying electricity, save that the examination and test of the same need not be made upon the customer's premises; that a penalty be imposed whenever, upon examination and test, a meter, demand indicator or other device or appliance so used is found to operate or register incorrectly and adversely to the customer; and that it be expressly stipulated that by such action no sanction or justification is intended to be given differential or discriminatory prices for electricity. A bill embodying the Board's recommendation accompanies this report.

Respectfully submitted,

FORREST E. BARKER,
MORRIS SCHAFF,
ALONZO R. WEED,

Board of Gas and Electric Light Commissioners.

AN ACT TO PROVIDE FOR THE INSPECTION OF DEMAND INDICATORS.

SECTION 1. The provisions of sections thirty-six, thirty-seven and thirty-eight of chapter one hundred and twenty-one of the Revised Laws and of all acts in amendment thereof and in addition thereto shall apply to demand indicators, so called, and any other devices or appliances installed by an electric company upon the premises of any of its customers and used by such company for the purpose of determining the charge to such customer for its service. Nothing herein contained shall be held to authorize or justify differential prices for electricity supplied by such company.

SECTION 2. Whoever being engaged in the sale of electricity maintains upon the premises of a customer a meter, demand indicator or other mechanical device or appliance for the purpose of determining the charge to be made for electricity supplied to such customer, which meter, demand indicator or other mechanical device or appliance is found upon examination and test, as provided in section thirty-six of chapter one hundred and twenty-one of the Revised Laws, to register incorrectly as against such customer, shall for each offence be punished by a fine of not more than twenty-five dollars.

SECTION 3. All provisions of law inconsistent herewith are hereby repealed.

SECTION 4. This act shall take effect upon its passage.

APPENDIX A.

REPORT TO BOARD OF GAS AND ELECTRIC LIGHT COMMISSIONERS ON MAXIMUM DEMAND INDICATORS IN USE BY THE EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON, DECEMBER, 1911, BY F. A. LAWS.

In cases where it is necessary to determine a customer's maximum demand, the practice of the Edison Electric Illuminating Company of Boston is as follows:—

All demands on direct current services and all demands on alternating current services, if the load be noninductive (that is, where alternating current motors, rectifiers, etc., are not used), are determined by means of the Wright maximum demand indicator *except* in cases where electricity is sold under schedule D of the schedule of rates published by that company June 1, 1910 (Appendix B).

In all cases where schedule D is in force, for either direct or alternating current services, and for all alternating current power above 50 kilowatts, the Ingalls relay demand indicator is used.

In general, for alternating current power under 50 kilowatts no permanent device is installed; the demand is commonly determined by timing, at intervals, the regularly installed watt-hour meter with a stop watch while the machinery is running at its normal maximum, or else an Ingalls relay demand indicator is temporarily installed and the demand so determined. Occasionally, however, this indicator is made a permanent fixture. There are, therefore, two devices in use by this company for determining maximum demands:—

1. The Wright maximum demand indicator.
2. The Ingalls relay demand indicator.

THE WRIGHT MAXIMUM DEMAND INDICATOR.

This indicator may be looked upon as a registering differential thermometer, one bulb of which is heated by the passage of the current through a suitable heater coil which closely surrounds it.

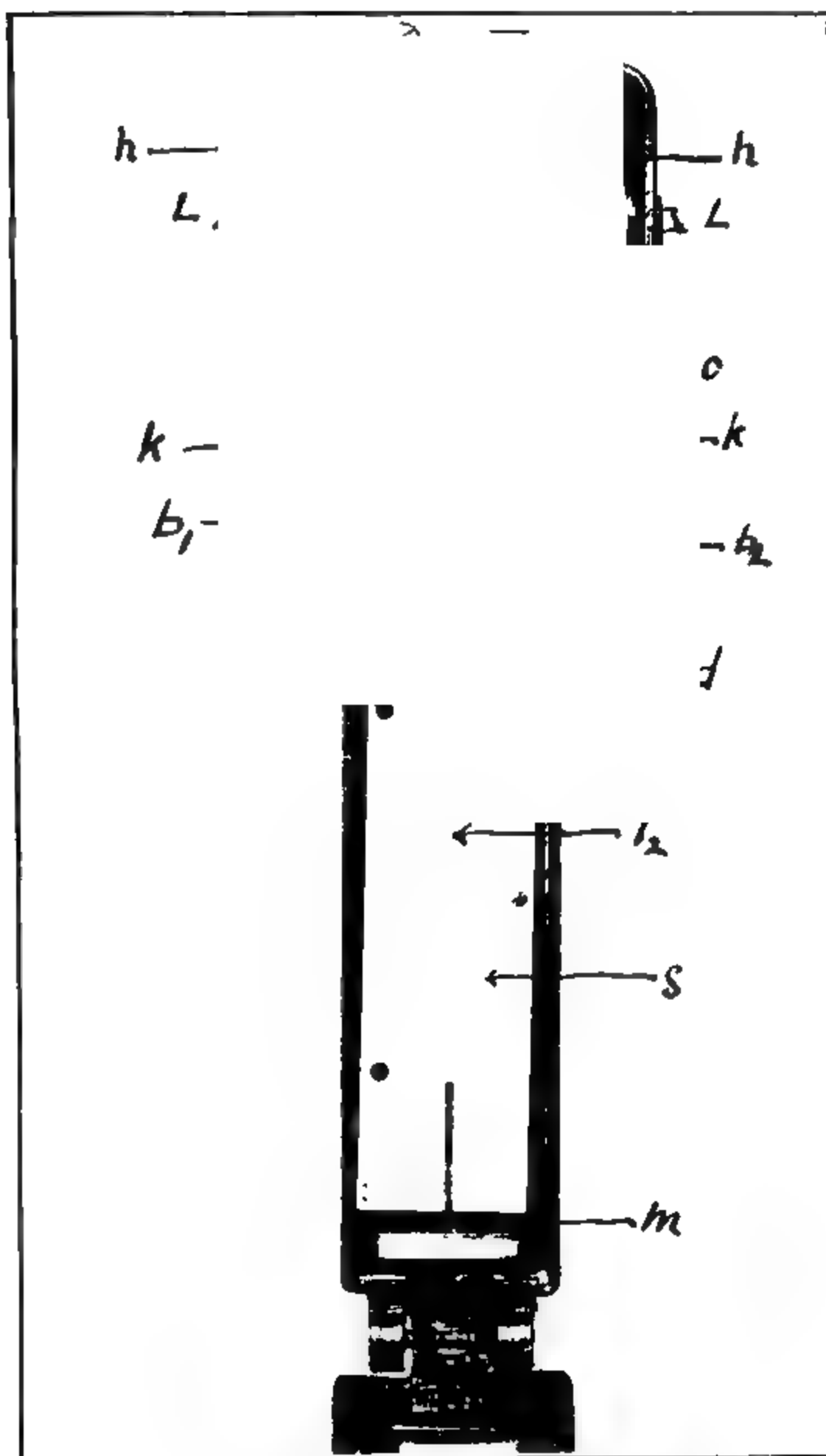
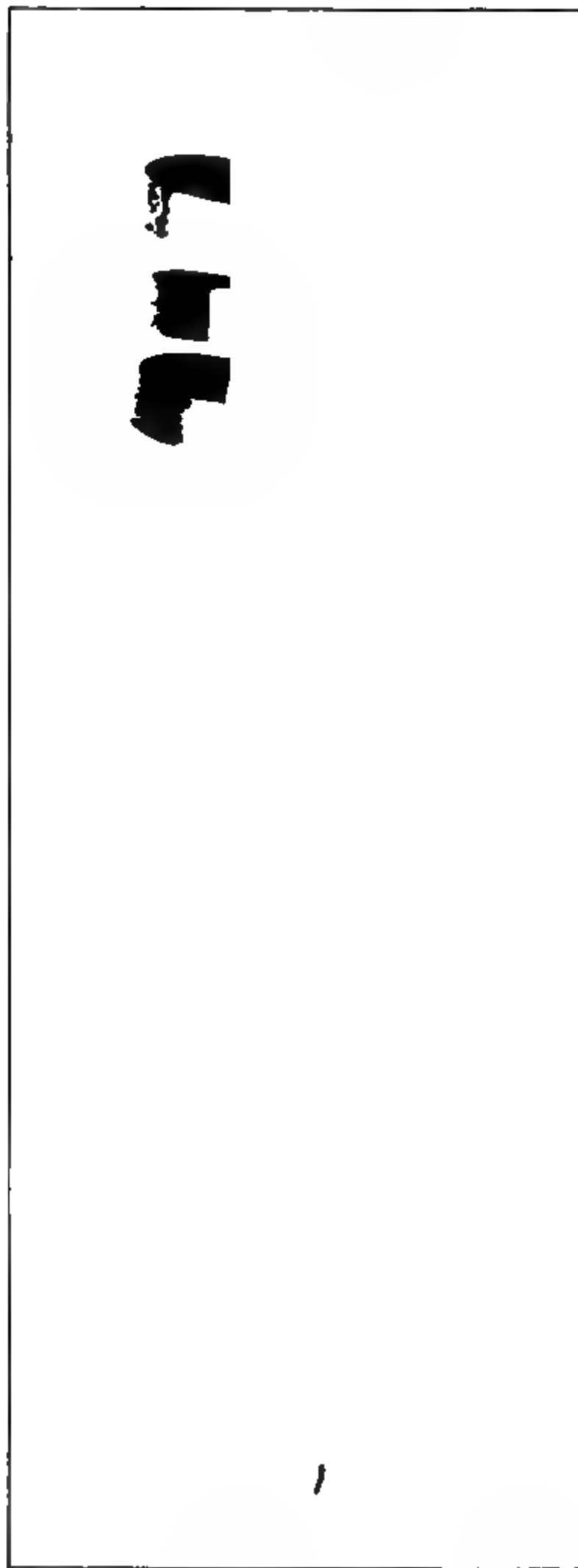


Fig. 1. — Wright Maximum Demand Indicator.



A

Fig. 3.

B

$g \rightarrow$

$t \rightarrow$

FIG.2

The internal appearance of the indicator as made in the smaller sizes, up to and including 25 amperes, is shown in Fig. 1.

The essential working parts are the indicator tube, with its attached index tube (i_2), the scale (s) and the heater strips (c). In the small sizes (up to and including 25 amperes) the customer's entire current is taken in through the leads (L,L), and to the heater strips via the spring hinges (h) and flexible connecting strips (k).

The Indicator Tube. — The indicator tube (see Fig. 2) is of glass, annealed so that it will bear handling and not be subject to changes due to stresses in the glass; the two bulbs (b_1 and b_2) which are nearly equal in volume, contain air, the U tube connecting them contains concentrated sulphuric acid in such an amount and so adjusted in the tube that when the indicator is cold and set ready to begin to operate, the level of the liquid is at d, so that it is just on the point of flowing into the index tube (i_2). Sulphuric acid is used because it "wets" the glass, is very heavy, flows readily, is hygroscopic and expands comparatively little with rise of temperature. To prevent accidental transfer of air from b_1 to b_2 or *vice versa*, especially when the indicator is set, the tube is constricted to a capillary at g and g' and two traps are provided at t and t'.

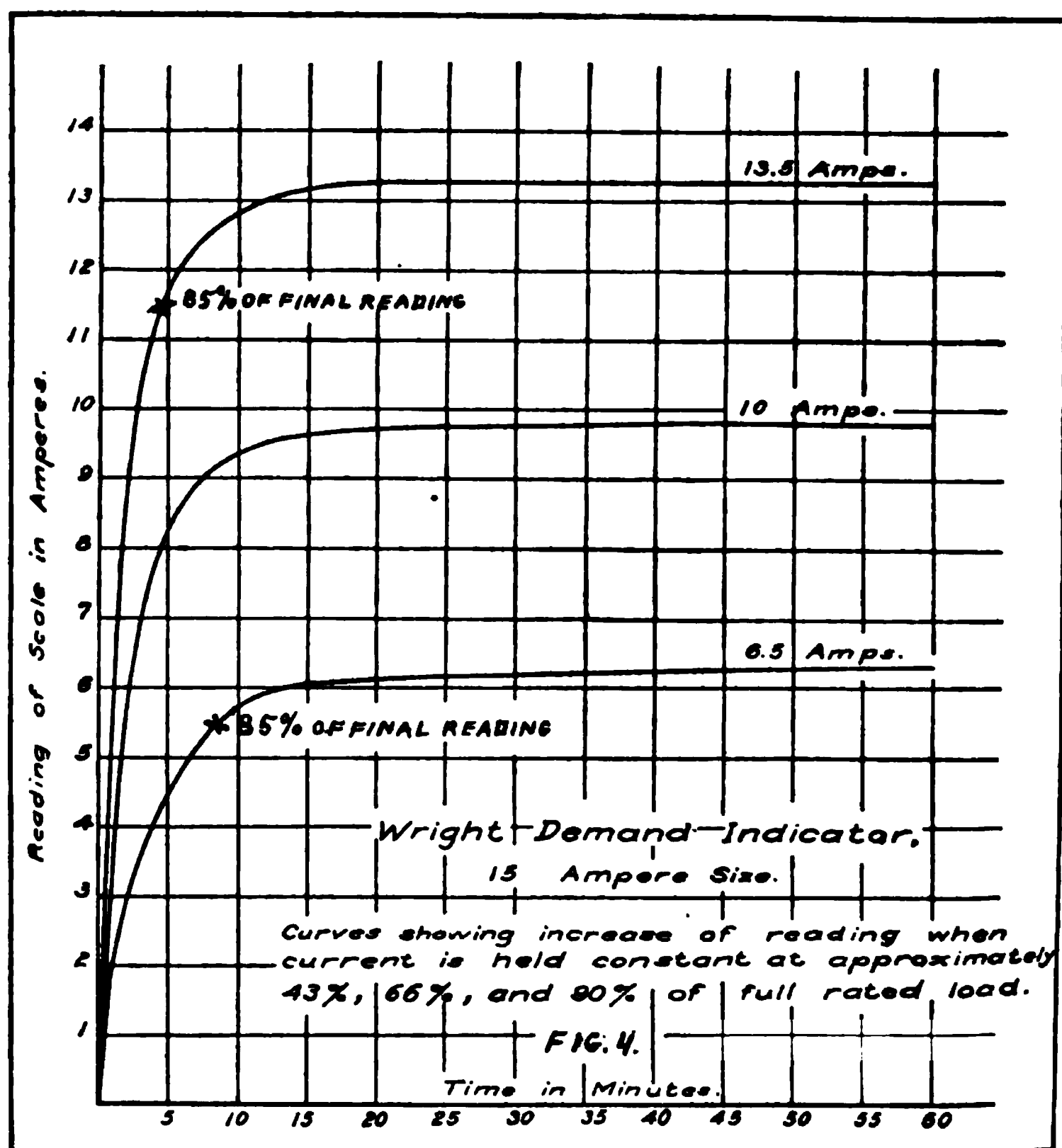
Heater Strips. — The heater strips are of an alloy of high resistivity, the resistance of which is but little affected by temperature; the strips are of very thin metal and are made to closely embrace the cylindrical glass bulb (b_1) by means of screw clamps. (See Fig. 3.) In the small-sized indicators, where it is necessary to carry the heater strips around the bulb a number of times, a noninductive form, shown at A in Fig. 3, is used. The object of this construction is to prevent the turns drawing together when a short circuit occurs; if this should happen the strips would very likely be burned out or their intimacy of contact with the glass so altered that an error would be introduced. The corrugated copper terminals form somewhat flexible electrical connections to the heater proper. In indicators having a range of 35 amperes and above, shunts are used, the heater strips being of the 15-ampere type.

Setting and Operation. — The indicator is set by raising the lower end of the tube board (m), on which the above described members are mounted, until it is somewhat above the spring hinges (h) on which it is pivoted. This allows the liquid in the index tube (i_2) to drain back into the U tube; when thoroughly drained and the board is lowered to its normal position, the U tube is filled with liquid up to d.

If a current is now sent through the heater strips, the air in b_1 is heated, and expands, causing the liquid to flow slowly into the index tube (i_2) which is in front of the graduated scale; the flow will continue until the permanent state of temperature corresponding to that particular current is reached.

Time-lag. — Owing to the heat capacity of the strips, the glass bulb,

etc., and the poor thermal conductivity of the glass, the response of the indicator to the increase of current is sluggish; this lagging of the reading behind the increase of current is essential to the successful operation of any such device, for it must not take cognizance of currents above the normal, which last for only a very short time. The indication desired is that due to the *sustained* maximum. Fig. 4 shows this gradual increase of reading when the current is kept constant. Another point may be noted: after the device has cooled down, owing to shutting off



the current, there will be no increase of reading when a current slightly larger than that previously registered is turned on until the larger current has been maintained for a time longer than the normal time-lag of the indicator; for that time must elapse before there has been sufficient expansion of the air in b_1 to cause the liquid to again begin to flow into the index tube. (This is illustrated in Fig. 5.) Curve A shows the normal rise of the indication, when, after the device has been set, the current is maintained at 10 amperes. After the current has

been thrown off and the indicator allowed to cool thoroughly, a run at 10.5 amperes gives curve B (the indicator *not* being reset).

It is intended that approximately 90 per cent. of the full load registration be accomplished in four minutes, and the entire registration in about forty minutes. Fig. 4 shows how a particular instrument responded to the current.

It will be noted from Fig. 4 that the rise to a fair approximation to the final reading, say 85 per cent. of it, occurs more abruptly when the indicator is worked at about its full capacity than when it is lightly loaded. Fig. 6 illustrates this point; a 50 and a 100 ampere indicator were tested in series at 45 amperes. Of course each indicator has its characteristic rate of response to the current.

Owing to differences in the tubes, it is impracticable to print the scales, for each must be graduated by experiment to fit the particular tube to which it is applied. It is the practice of the Edison Company to determine either 4 or 5 points by passing measured currents through the indicator for a sufficient time, and then marking on the scale the corresponding heights of the liquid in the index tube (i_2); the subdivision is done mechanically. Samples of the scales used by this company are shown in Fig. 7; the points which are experimentally determined are marked by a heavy dot.

The indicators are connected in circuit as shown in Fig. 8.

It is the present practice of the Edison Company to bring in yearly for test, and whatever adjustment is necessary, one-fourth of the Wright demand indicators which it has installed on its lines. The work is usually done in the eight months, March to October, inclusive.

Tests. — The standard specifications for the purchase of Wright demand indicators include this statement as to the accuracy which the device should possess: —

	Per Cent.
At full scale,	4
At four-fifths scale,	5
At three-fifths scale,	6½
At two-fifths scale,	10
At one-fifth scale,	20

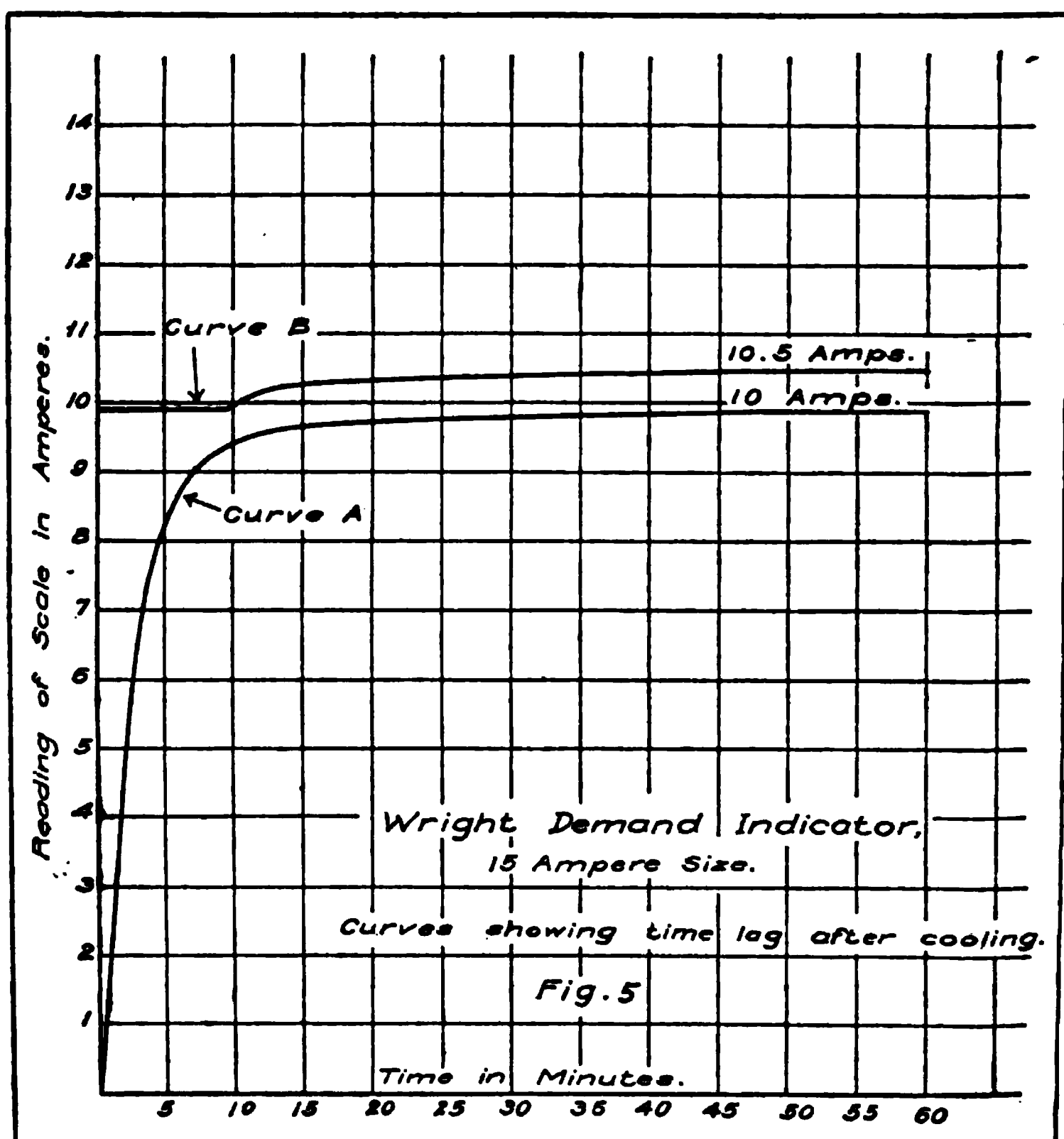
The understanding is that the average accuracy of any 10 instruments shall be 3 per cent. or better at full scale reading at the time of purchase.

The Edison Company has installed on its lines about 10,600 Wright demand indicators, of which approximately 99 per cent. are included in the sizes from 5 amperes to 200 amperes, inclusive, and the 300-ampere size. From these sizes the indicators to be tested were selected. The remaining 1 per cent. includes indicators of various capacities up to 3,000 amperes.

The indicators to be tested were selected as follows: I was given

access to the cases in which the meter readers' cards are filed. From these I drew cards at random until the desired number of indicators of any specified size was reached. In the drawing, care was taken to retain only indicators which were actually used by the company in computing the bills of customers. Light and power and alternating as well as direct current services were represented in the selection.

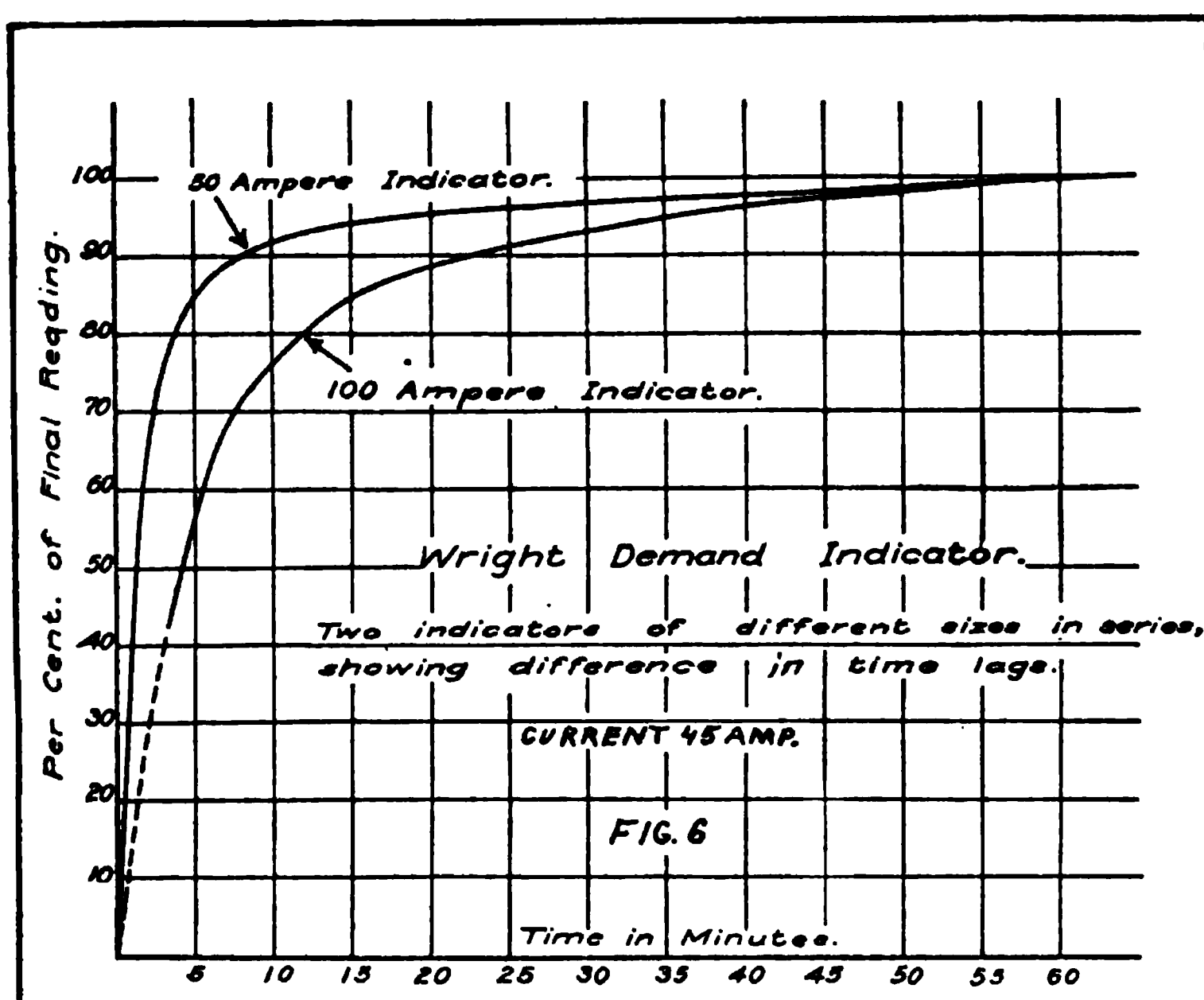
The numbers drawn as above were recorded, and the indicators removed from the customers' premises, either in my presence or in the



presence of my representative. They were immediately transferred to the Standardizing Laboratory of the Massachusetts Institute of Technology, where the tests were made.

At the laboratory the indicators of a given size were set up and connected in series, currents, either direct or alternating, as the case required, and of the proper magnitude were sent through them and maintained constant until the readings assumed their ultimate values. The currents were measured by the use of standards certified by the United States National Bureau of Standards at Washington, D. C.

The points selected for calibration were: first, 20 per cent. and 90 per cent. of the full scale reading, the former because it is usually the first mark on the scale, the latter because it is desirable to be able to state the inaccuracy at the upper end of the scale if the indicator should register too much; second, two intermediate points at about 43 per cent. and 66 per cent. were taken, thus dividing the interval between 20 per cent. and 90 per cent. about equally. Tests were made at these four points and then, in order to obtain a check measurement, the whole series was repeated. All tests were made at a room temperature of 68 degrees F., unless otherwise specified.



The results obtained are given on pages 347 a-351 a, which are the summaries of the percentage registration tables found on pages 353 a-356 a.

As the 20 per cent. load mark is the first one on the scale, no numerical reading is possible unless the indicator is correct or reads too much; so on page 347 a it is simply noted whether the reading is too large, correct or too small. The average registration of those indicators which register too much at this point is 113.5 per cent., which is the average of the figures appearing on page 353 a. If those registering correctly be included the average is 108.7 per cent. The readings at the lower end of the scale are considerably influenced by temperature; for instance, four indicators of 35-amperes capacity, were set at 68 degrees F., and then the temperature raised to 104 degrees F. and kept

there for four hours; no current was sent through the indicators. The average rise of the liquid in the indicator tubes was .52 inch, which roughly corresponds to a change of reading of 5 amperes at this point. These extremely low readings are not, however, of as great importance as those at the upper end of the scale. For example, it happened that the average percentage reading of the indicators when removed for test was approximately 60 per cent., with an occasional value falling as low as 30 per cent. The effect of temperature becomes smaller as the readings increase.

This is more fully illustrated by the following tests: Two indicators, one of 5, the other of 10, amperes' capacity, were used. They were placed in a suitable chamber in which were heating coils and a fan to circulate the air. The temperature being originally at 68 degrees F. was raised to 104 degrees F., no current being sent through the indicators. The rise of liquid in the index tube was for the 5-ampere indicator .38 inch, for the 10-ampere indicator .50 inch.

The temperature was maintained constant for four hours at 104 degrees F., the fan being kept running; at the end of this time the 20 per cent. load test was begun, the other tests followed as usual and the results are shown in Fig. 9. It will be seen that the low readings are very considerably affected, that the percentage error decreases with an increase of load, and that each instrument has its own characteristic behavior. The results given by the curves are the averages obtained from three separate tests.

The results at the other loads are stated numerically on pages 348 a-349 a, where are exhibited the number of indicators falling into these groups: —

Indicators registering 90 per cent. and less.

Indicators registering from 90.1 to 94.9 per cent. inclusive.

Indicators registering from 95 to 98 per cent. inclusive.

Indicators registering from 98.1 to 101.9 per cent. inclusive.

Indicators registering from 102 to 105 per cent. inclusive.

Indicators registering from 105.1 to 109.9 per cent. inclusive.

Indicators registering 110 per cent. and more.

From these tables it will be seen that —

At 20 Per Cent. Load. — Approximately 45 per cent. of the indicators register too much with an average excess registration of 13.5 per cent.

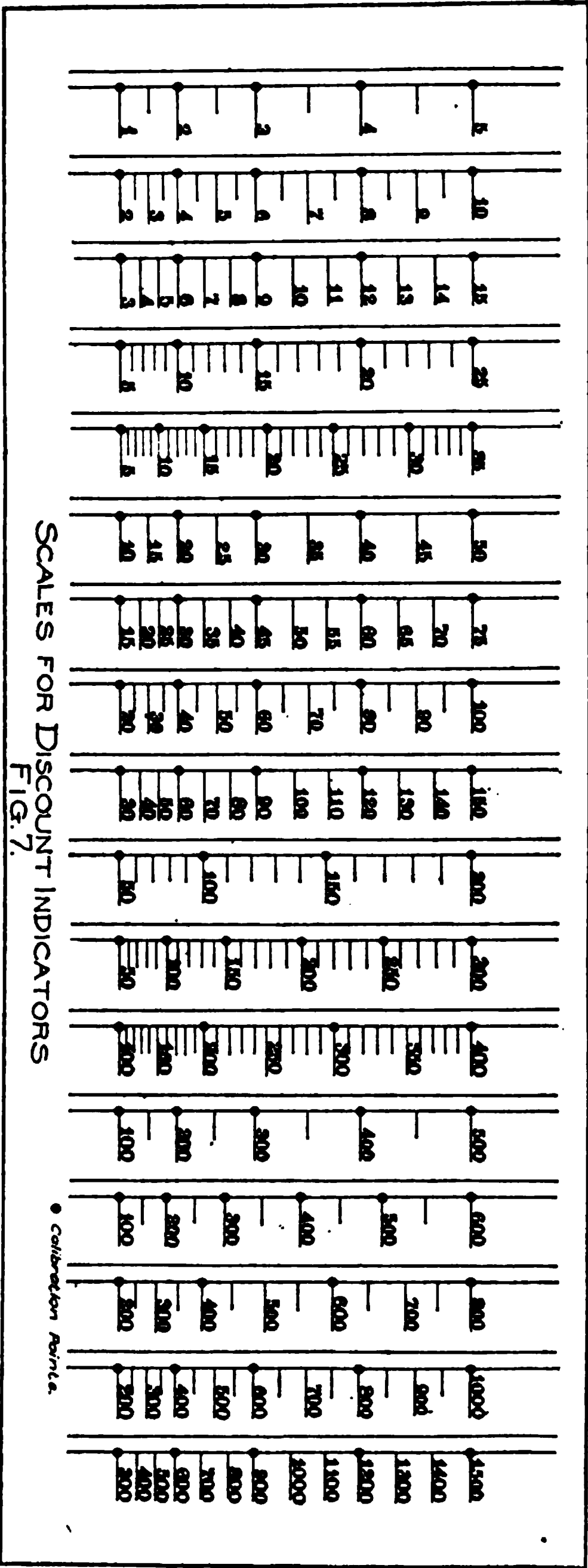
Approximately 31 per cent. of the indicators register too little.

Approximately 25 per cent. of the indicators register correctly.

The average excess registration of the indicators which register correctly and too much is 8.7 per cent.

At 43 Per Cent. Load. — Approximately 72 per cent. of the indicators register between 95 and 105 per cent.

Approximately 19 per cent. of the indicators register more than 105 per cent.



Approximately 10 per cent. of the indicators register less than 95 per cent.

Average registration of 81 meters at 43 per cent. load is 101.3 per cent.

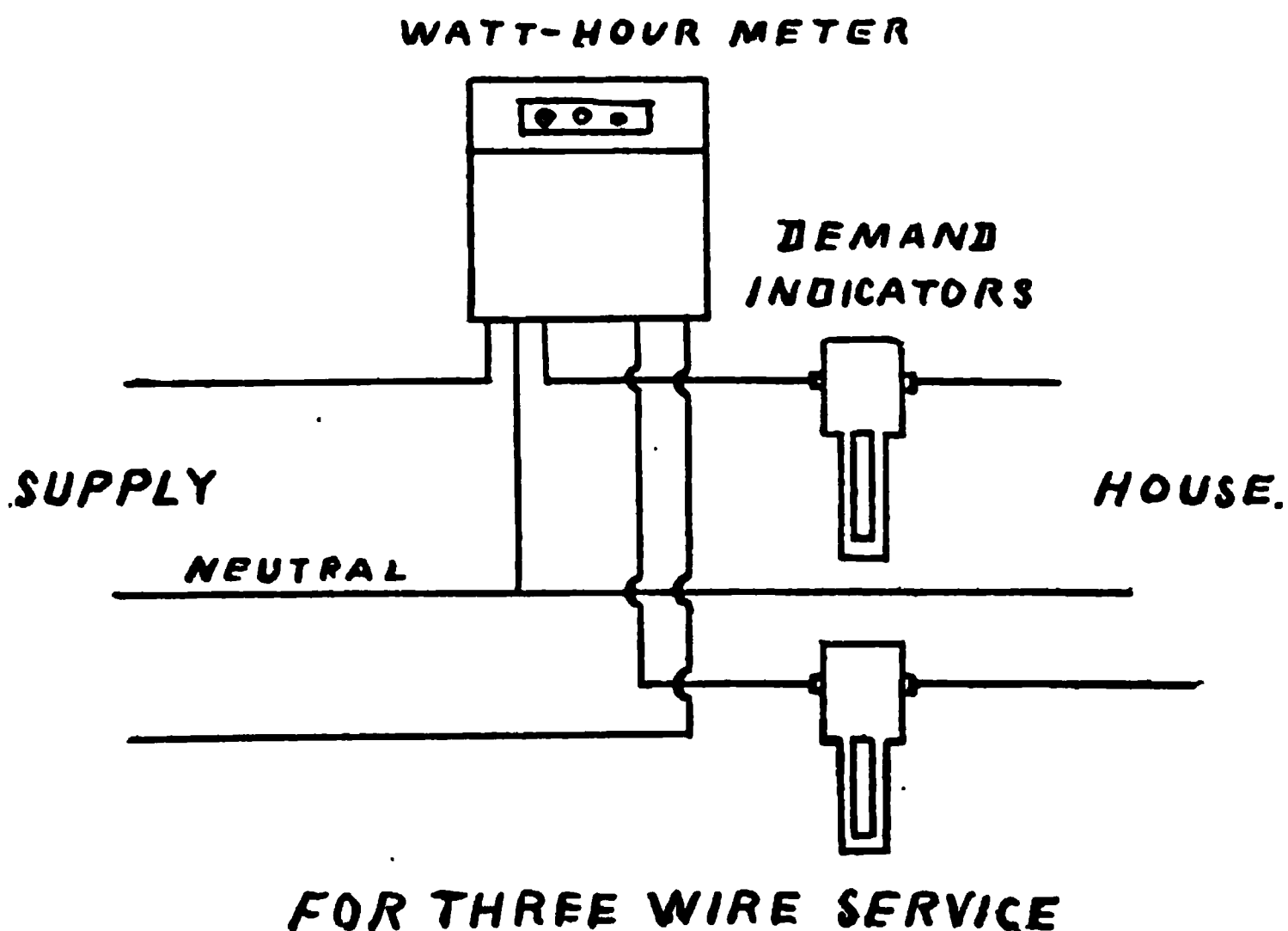
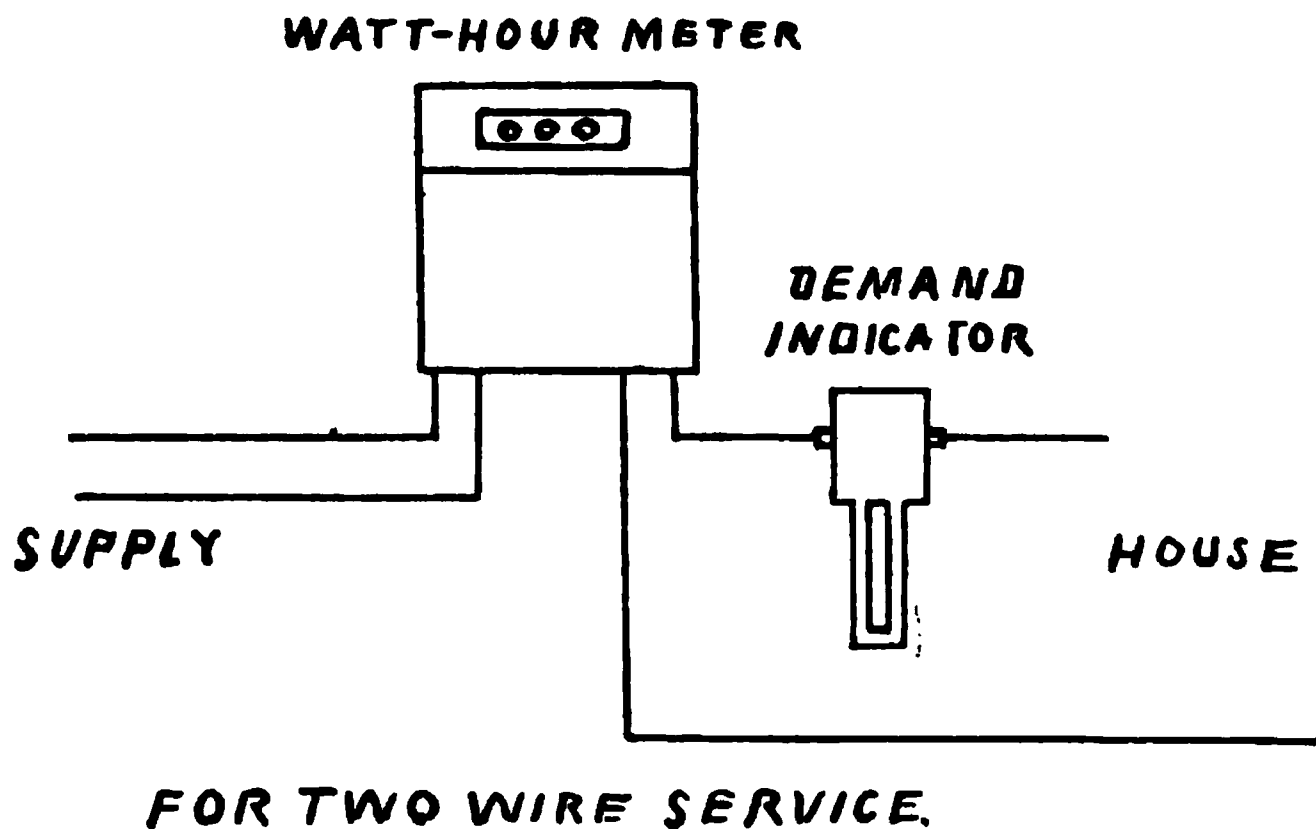


FIG 8

At 66 Per Cent. Load. — Approximately 84 per cent. of the indicators register between 95 and 105 per cent.

Approximately 11 per cent. of the indicators register more than 105 per cent.

Approximately 5 per cent. of the indicators register less than 95 per cent.

Average registration of 81 meters at 66 per cent. load is 101.1 per cent.

At 90 per Cent. Load. — Approximately 82 per cent. of the indicators register between 95 and 105 per cent.

Approximately 14 per cent. of the indicators register more than 105 per cent.

Approximately 5 per cent. of the indicators register less than 95 per cent.

Average registration of 81 meters at 90 per cent. load is 101.1 per cent.

References to pages 353 a–356 a will show that there are occasional wide deviations from the average values. For instance, among the 150 ampere indicators tested at 90 per cent. load, there is one with a registration of 114.8 per cent., and one with a registration of 110.4 per cent. All the others average about 103 per cent.

RESULTS OF TESTS ON 81 WRIGHT DEMAND INDICATORS CLASSIFIED IN GROUPS ACCORDING TO THE MAGNITUDE OF THE ERRORS AND THE SIZES OF THE INDICATORS.

At 20 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	NUMBER OF INDICATORS WHICH REGISTER TOO —		Number which register correctly.
	Much.	Little.	
5,	6	2	0
10,	3	3	4
15,	5	3	2
25,	5	4	1
35,	1	3	0
50,	7	2	1
75,	3	4	3
100,	3	1	1
150,	3	0	4
200,	0	2 ¹	4 ¹
300,	0	1	0
Totals,	36	25	20

¹ At 25 per cent. load being first mark on scale of this indicator.

44.5 per cent. of the indicators register too much. The average excess registration is 13.5 per cent.
30.9 per cent. of the indicators register too little.
24.7 per cent. of the indicators register correctly.
Average excess registration of indicators which register correctly and too much, 8.7 per cent.

RESULTS OF TESTS ON 81 WRIGHT DEMAND INDICATORS, ETC. —
Continued.

At 43 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	NUMBER OF INDICATORS REGISTERING —						
	110 Per Cent. and More.	109.9-105.1 Per Cent. inclusive.	105-102 Per Cent. inclusive.	101.9-98.1 Per Cent. inclusive.	98-95 Per Cent. inclusive.	94.9-90.1 Per Cent. inclusive.	90 Per Cent. and Less.
5, . .	0	0	2	4	2	0	0
10, . .	0	2	2	4	0	1	1
15, . .	0	0	3	3	4	0	0
25, . .	0	0	2	6	1	1	0
35, . .	1	0	2	0	0	1	0
50, . .	3	3	2	1	0	1	0
75, . .	1	0	1	4	4	0	0
100, . .	0	1	2	2	0	0	0
150, . .	1	3	0	2	0	1	0
200, . .	0	0	0	5	0	1	0
300, . .	0	0	0	0	0	0	1
Totals, .	6	9	16	31	11	6	2

71.6 per cent. of the indicators register between 95 per cent. and 105 per cent.

18.5 per cent. of the indicators register more than 105 per cent.

9.9 per cent. of the indicators register less than 95 per cent.

At 66 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	NUMBER OF INDICATORS REGISTERING —						
	110 Per Cent. and More.	109.9-105.1 Per Cent. inclusive.	105-102 Per Cent. inclusive.	101.9-98.1 Per Cent. inclusive.	98-95 Per Cent. inclusive.	94.9-90.1 Per Cent. inclusive.	90 Per Cent. and Less.
5, . .	0	0	1	2	4	1	0 .
10, . .	0	1	3	4	1	1	0
15, . .	0	0	2	2	6	0	0
25, . .	0	0	1	7	1	1	0
35, . .	1	0	1	1	1	0	0
50, . .	2	1	4	3	0	0	0
75, . .	1	0	4	3	2	0	0
100, . .	0	1	2	2	0	0	0
150, . .	1	1	2	2	1	0	0
200, . .	0	0	2	4	0	0	0
300, . .	0	0	0	0	0	1	0
Totals, .	5	4	22	30	16	4	0

84.0 per cent. of the indicators register between 95 per cent. and 105 per cent.

11.1 per cent. of the indicators register more than 105 per cent.

5.0 per cent. of the indicators register less than 95 per cent.

RESULTS OF TESTS ON 81 WRIGHT DEMAND INDICATORS, ETC.—
Concluded.

At 90 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	NUMBER OF INDICATORS REGISTERING —						
	110 Per Cent. and More.	109.9-105.1 Per Cent. inclusive.	105-102 Per Cent. inclusive.	101.9-98.1 Per Cent. inclusive.	98-95 Per Cent. inclusive.	94.9-90.1 Per Cent. inclusive.	90 Per Cent. and Less.
5, . .	0	0	1	5	1	1	0
10, . .	1	0	1	5	2	1	0
15, . .	0	0	1	7	2	0	0
25, . .	0	0	1	6	2	1	0
35, . .	0	2	0	2	0	0	0
50, . .	0	3	4	2	1	0	0
75, . .	1	0	1	6	2	0	0
100, . .	1	1	0	3	0	0	0
150, . .	2	0	3	0	2	0	0
200, . .	0	0	3	3	0	0	0
300, . .	0	0	0	0	0	1	0
Totals, .	5	6	15	39	12	4	0

81.5 per cent. of the indicators register between 95 per cent. and 105 per cent.
13.6 per cent. of the indicators register more than 105 per cent.
5.0 per cent. of the indicators register less than 95 per cent.

RESULTS OF TESTS ON 81 WRIGHT DEMAND INDICATORS, AS SHOWN BY
THE AVERAGE VALUES, CLASSIFIED ACCORDING TO SIZES OF THE
INDICATORS.

Average Results from 8 5-Ampere Indicators.

PER CENT. OF FULL LOAD.	INDICATORS REGISTER TOO —		CORRESPONDING PER CENT. TOO —	
	Much by — Amperes.	Little by — Amperes.	Much.	Little.
20, . . . . .	.066	—	6.3	—
43,	—	.016	—	.7
66,	—	.050	—	1.5
90,	—	.045	—	1.0

Average Results from 10 10-Ampere Indicators.

20,	—	—	—	—
43, . . . . .	.015	—	.3	—
66, . . . . .	.022	—	.3	—
90,	—	.004	0.0	0.0

RESULTS OF TESTS ON 81 WRIGHT DEMAND INDICATORS, ETC. —
Continued.

Average Results from 10 15-Ampere Indicators.

PER CENT. OF FULL LOAD.	INDICATORS REGISTER TOO —		CORRESPONDING PER CENT. TOO —	
	Much by — Amperes.	Little by — Amperes.	Much.	Little.
20,	—	—	—	—
43,	—	.042	—	.6
66,	—	.099	—	1.0
90,	—	.13	—	1.0

Average Results from 10 25-Ampere Indicators.

20,	—	—	—	—
43,	—	.046	—	.4
66,	—	.034	—	.2
90,	—	.27	—	1.2

Average Results from 4 35-Ampere Indicators.

20,	—	—	—	—
43, . . . . .	.54	—	3.6	—
66, . . . . .	.84	—	3.6	—
90,	1.30	—	4.1	—

Average Results from 10 50-Ampere Indicators.

20,	—	—	—	—
43,	1.59	—	7.3	—
66,	1.29	—	3.9	—
90,	1.55	—	3.4	—

Average Results from 10 75-Ampere Indicators.

20	—	—	—	—
43, . . . . .	.35	—	1.1	—
66, . . . . .	.90	—	1.8	—
90,	1.05	—	1.5	—

RESULTS OF TESTS ON 81 WRIGHT DEMAND INDICATORS, ETC. —
Concluded.

Average Results from 5 100-Ampere Indicators.

PER CENT. OF FULL LOAD.	INDICATORS REGISTER TOO —		CORRESPONDING PER CENT. TOO —	
	Much by — Amperes.	Little by — Amperes.	Much.	Little.
20,	—	—	—	—
43,	1.09	—	2.5	—
66,	1.40	—	2.1	—
90,	3.44	—	3.8	—

Average Results from 7 150-Ampere Indicators.

20,	—	—	—	—
43,	2.3	—	3.6	—
66,	3.3	—	3.3	—
90,	5.1	—	3.8	—

Average Results from 6 200-Ampere Indicators.

20,	—	—	—	—
43,	—	.7	—	.8
66,	2.3	—	1.8	—
90,	4.0	—	2.2	—

Results from 1 300-Ampere Indicator.

20,	—	—	—	—
43,	—	18.5	—	14.2
66,	—	18.0	—	9.0
90,	—	24.0	—	8.8

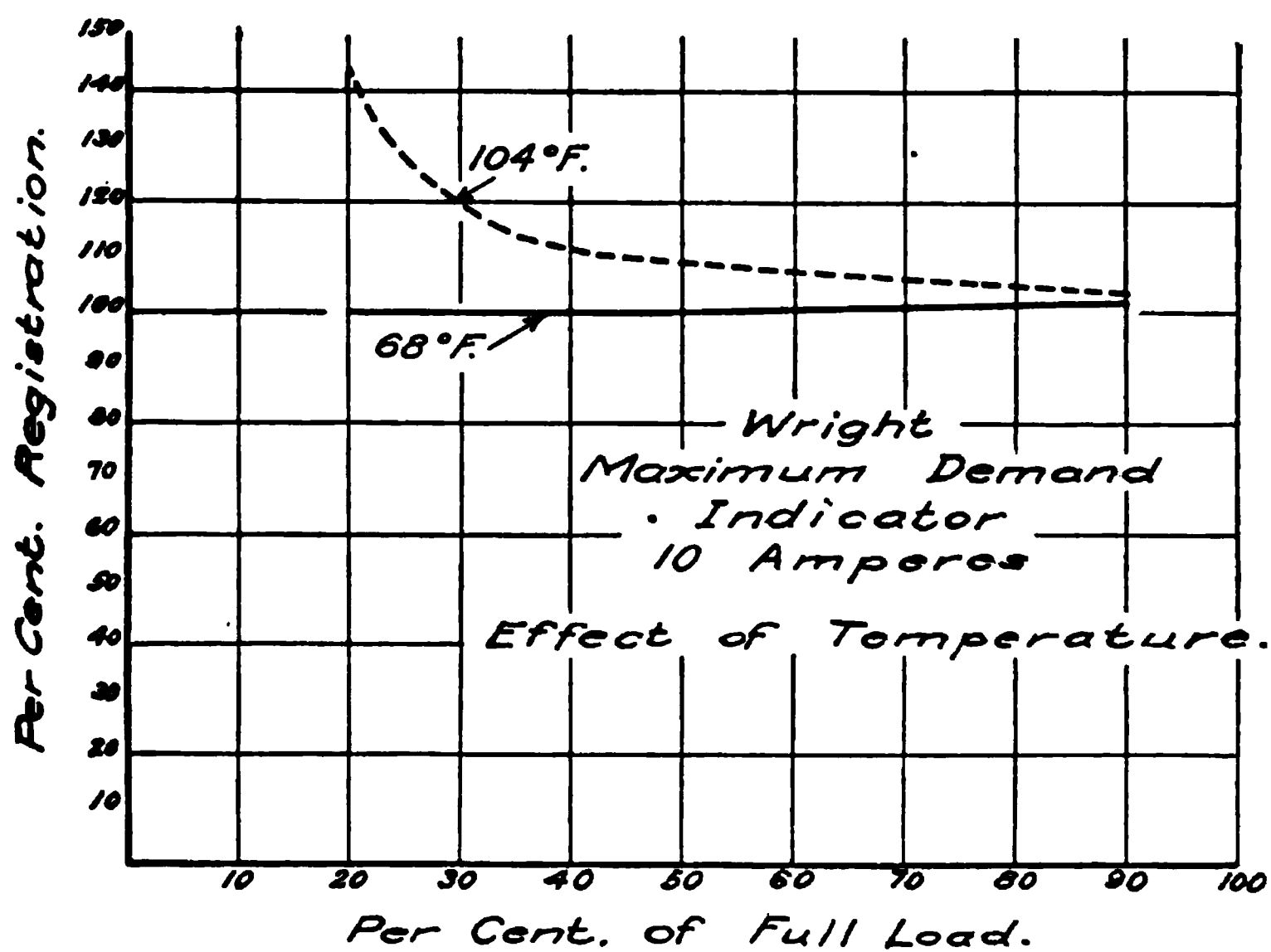
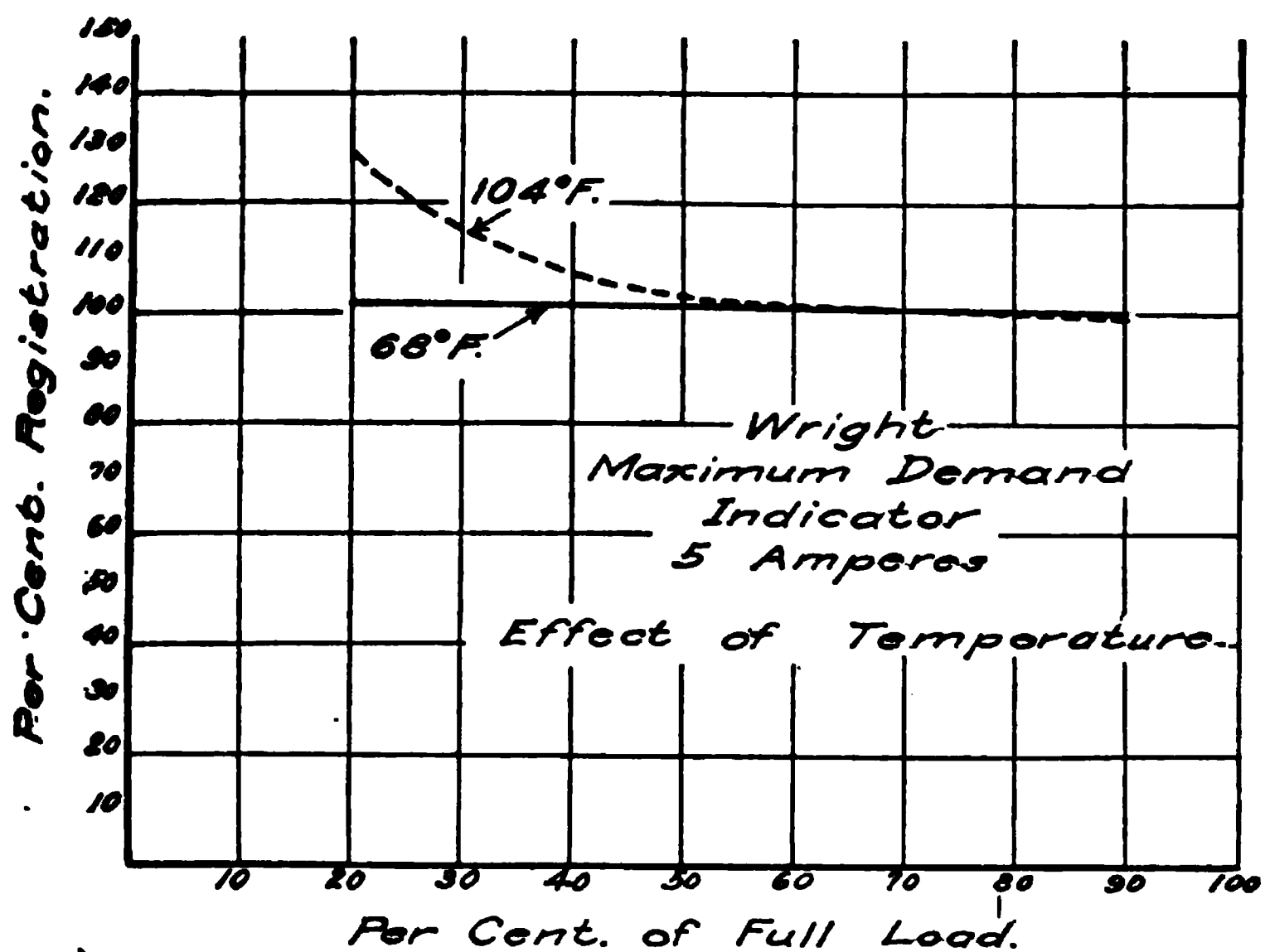


Fig. 9.

PERCENTAGE REGISTRATION OF WRIGHT MAXIMUM DEMAND INDICATORS.
At 20 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	Regis- tering too Much.	Registra- tion (Per Cent.).	Regis- tering too Little.	Registra- tion (Per Cent.).	Register- ing correctly.
5,	No. 90493 12441 14409 11 12613 14545	101.9 125.7 102.0 114.3 104.8 111.4	No. 12885 95049 - - - -	95.2 95.2 - - - -	- - - - - -
10,	No. 93352 96157 9431 -	110.0 102.5 115.0 -	No. 9838 14285 93718 -	- - - -	No. 15071 8815 15464 13718
15,	No. 7208 11689 13819 2757 2871	118.4 121.7 115.0 121.7 103.3	No. 5603 5165 5551 - -	- - - - -	No. 6538 15650 - - -
25,	No. 91286 6992 2563 473 9110	113.0 102.0 111.2 112.2 106.3	No. 4785 4362 6974 - 2981	- - - - 98.4	No. 3729 - - - -
35,	No. 11880 - -	101.4 - -	No. 12448 10961 3978	- - -	- - -
50,	No. 11858 7661 4431 3961 6440 3484 10580	117.5 170.0 132.5 115.0 126.0 115.0 112.5	No. 90764 12080 - - - - -	- - - - - - -	No. 1431 - - - - - -
75,	No. 10984 2824 142 -	113.3 113.3 103.3 -	No. 10914 3674 11342 94459	- - - -	No. 3004 4582 4872 -
100,	No. 3824 7562 7563	113.8 111.2 106.1	No. 90357 - -	- - -	No. 1493 - -
150,	No. 90459 90460 2098 -	106.7 105.0 111.7 -	- - - -	- - - -	No. 13811 8376 13555 2096
200,	- - - -	- - - -	No. 13808 11048 - -	- - - -	No. 90236 230 237 298
300,	-	-	No. 11686	-	-

PERCENTAGE REGISTRATION OF WRIGHT MAXIMUM DEMAND INDICATORS
—Continued.
At 43 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	Regis- tering too Much.	Registra- tion (Per Cent.).	Regis- tering too Little.	Registra- tion (Per Cent.).	Register- ing correctly.
5,	No. 90493 14545 — — — —	102.3 104.5 — — — —	No. 12441 12885 14409 11 95049 12613	98.6 96.4 98.6 98.6 96.4 98.6	— — — — — —
10,	No. 93352 96157 8815 9431 13718	106.3 104.0 101.2 108.2 102.3	No. 9838 14285 15464 94718 —	89.5 98.1 94.6 99.3 —	No. 15071 — — — —
15,	No. 7208 11689 13819 2757 — —	103.1 100.8 102.6 104.6 — —	No. 5003 5165 6538 15650 5551 2871	99.2 96.9 95.7 95.7 95.4 99.5	— — — — — —
25,	No. 91286 3729 6992 2563 2981	101.1 103.2 101.4 104.4 100.2	No. 4785 4362 6974 473 9110	92.6 96.2 96.0 99.9 98.8	— — — — —
35,	No. 12448 11880 3978	115.8 104.0 103.3	No. 10961 — —	91.1 — —	— — —
50,	No. 90764 11858 7661 4431 3961 6440 3484 10580 1431	103.5 107.6 121.5 118.1 108.8 101.4 111.1 106.5 102.4	No. 12030 — — — — — — — —	92.6 — — — — — — — —	— — — — — — — — —
75,	No. 3004 4582 4872 10984 11342 2824	100.8 101.5 101.5 103.1 101.5 114.6	No. 10914 3674 94459 — 142 —	96.9 96.9 96.2 — 97.7 —	— — — — — —
100,	No. 3824 7562 7563 90357	103.2 105.1 102.8 101.6	No. 1493 — — —	99.9 — — —	— — — —
150,	No. 13811 90459 90460 13555 2096	107.7 110.0 106.2 100.4 108.6	No. 8376 2098 — — —	98.5 93.8 — — —	— — — — —
200,	No. 90236 230 298	101.2 101.2 101.7	No. 13808 11048 —	91.9 99.1 —	No. 237 — —
300,	—	—	No. 11686	85.8	—

Average registration of 81 meters at 43 per cent. load is 101.3 per cent.

PERCENTAGE REGISTRATION OF WRIGHT MAXIMUM DEMAND INDICATORS
— Continued.

At 66 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	Regis- tering too Much.	Registra- tion (Per Cent.).	Regis- tering too Little.	Registra- tion (Per Cent.).	Register- ing correctly.
5,	No. 90433 14909 14545 — —	100.9 100.9 104.8 — —	No. 12441 12885 11 95049 12613	92.8 97.3 97.9 95.8 97.9	— — — — —
10,	No. 93352 96157 15071 8815 9431	103.3 102.6 101.5 105.3 103.4	No. 9838 14285 15464 13718 93718	93.5 98.8 97.3 98.5 99.2	— — — — —
15,	No. 7208 2757 — — — —	103.5 104.7 — — — —	No. 5603 5165 6538 15650 11689 5551 2871	99.5 97.7 97.0 95.7 97.3 97.2 97.5	No. 13819 — — — — — —
25,	No. 91286 3729 6992 6974 2563 2981	101.8 101.6 100.6 101.3 103.1 101.8	No. 4785 473 9110 — — —	92.0 99.4 96.2 — — —	No. 4362 — — — — —
35,	No. 12448 3978	114.9 103.7	No. 11880 10961	99.4 96.5	— —
50,	No. 90764 11858 7661 4431 3961 6440 3484 10580 1431	102.1 104.3 111.9 111.1 100.6 102.3 105.6 102.1 100.6	No. 12030 — — — — — — — —	98.4 — — — — — — — —	— — — — — — — — —
75,	No. 10914 3004 4582 10984 11342 2824	102.0 104.0 100.5 102.0 105.0 114.4	No. 4872 94459 142 — — —	99.5 95.0 95.5 — — —	No. 3674 — — — — —
100,	No. 7562 7563 90357	103.6 102.5 105.5	No. 1493 3824 —	99.1 99.8 —	— — —
150,	No. 13811 8376 90459 90460 13555	105.7 100.7 114.0 103.3 102.3	No. 2098 — — — —	97.5 — — — —	No. 2096 — — — —
200,	No. 90236 230 237 298 11048	102.7 101.2 101.9 101.9 103.5	No. 13808 — — — —	99.6 — — — —	— — — — —
300,	—	—	No. 11686	91.0	—

Average registration of 81 meters at 66 per cent. load is 101.1 per cent.

PERCENTAGE REGISTRATION OF WRIGHT MAXIMUM DEMAND INDICATORS
— Concluded.
At 90 Per Cent. Load.

RATING OF INDICATORS (AMPERES).	Regis- tering too Much.	Registra- tion (Per Cent.).	Regis- tering too Little.	Registra- tion (Per Cent.).	Register- ing correctly.
5,	No. 14409 14545 - - -	101.1 104.8 - - -	No. 12441 12885 11 229 12613	92.3 98.9 98.9 98.9 97.1	No. 90493 - - - -
10,	No. 93352 96157 15071 8815 9431	101.3 100.6 102.2 110.0 101.7	No. 9838 14285 15464 13718 93718	91.3 98.9 98.9 97.8 96.9	- - - - -
15,	No. 2757 - - - - - -	103.0 - - - - - -	No. 5603 5165 6538 15650 11689 5551 13819 2871	99.6 98.5 98.9 97.0 98.3 98.5 98.5 97.9	No. 7208 - - - - - - -
25,	No. 91286 4362 2563 2981 - -	102.8 100.9 101.0 100.8 - -	No. 3729 6992 4785 6974 473 9110	99.3 99.3 98.0 99.3 96.7 95.2	- - - - - -
35,	No. 12448 3978	108.3 108.8	No. 11880 -	99.4 -	No. 10961 -
50,	No. 90764 11858 7661 4431 3961 6440 3484 10580	102.2 105.0 109.4 106.6 100.6 103.2 109.6 102.2	No. 1431 12030 - - - - - -	98.9 97.8 - - - - - -	- - - - - - - -
75,	No. 10914 3004 3674 4582 10984 11342 2824	100.7 102.6 101.8 101.5 101.5 101.8 113.2	No. 4872 94459 142 - - - -	99.6 95.6 97.0 - - - -	- - - - - - -
100,	No. 3824 7562 7563 90357	100.6 106.9 100.6 111.+	- - - -	- - - -	No. 1493 - - -
150,	No. 13811 8376 90459 90460 13555	103.7 102.6 114.8 102.2 110.4	No. 2096 2098 - - -	96.7 96.3 - - -	- - - - -
200,	No. 90236 230 237 298 11048	101.1 102.2 106.0 101.8 103.3	- - - - -	- - - - -	No. 13808 - - - -
300,	-	-	No. 11686	91.2	-

Average registration of 81 meters at 90 per cent. load is 101.1 per cent.

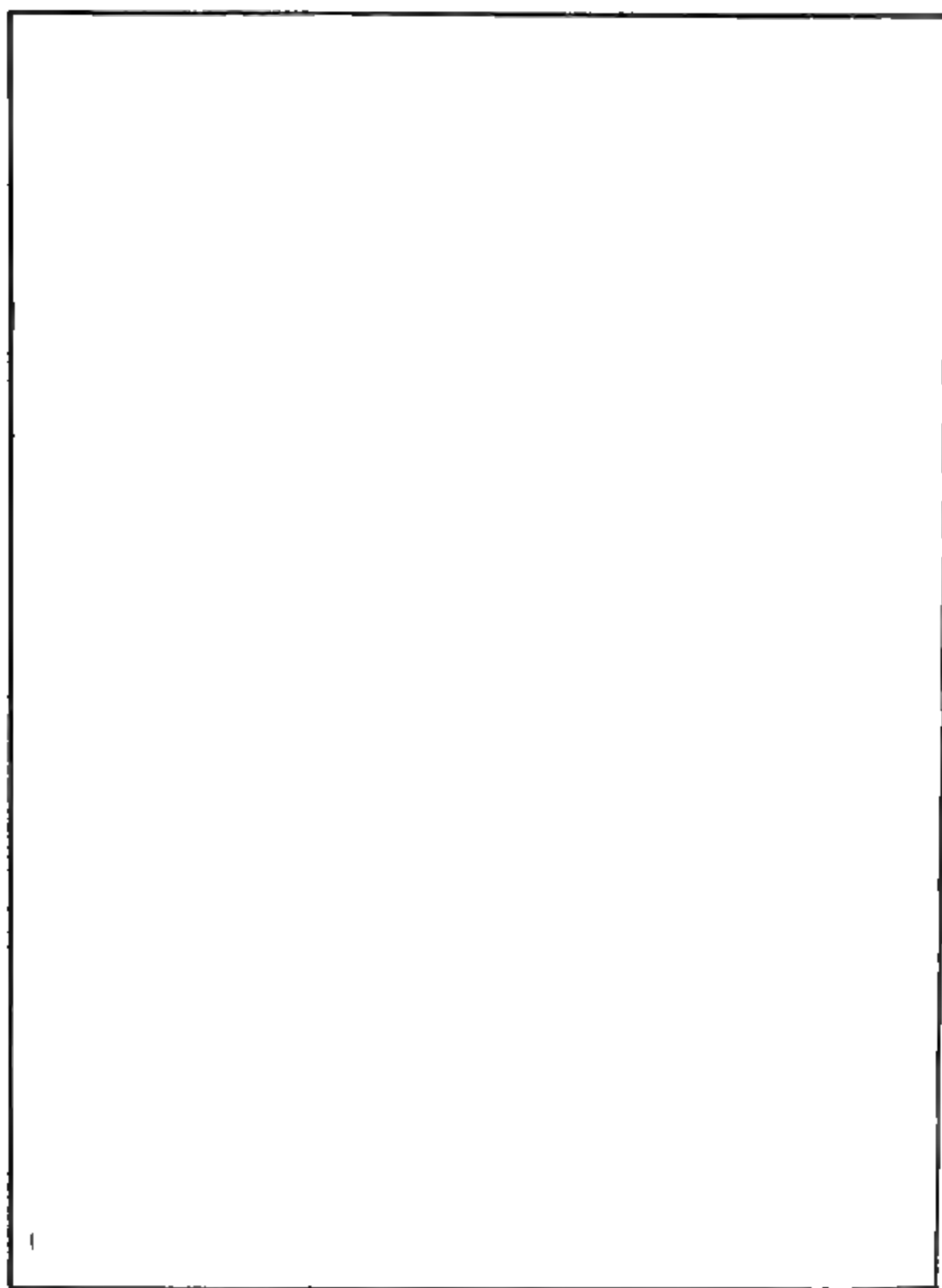
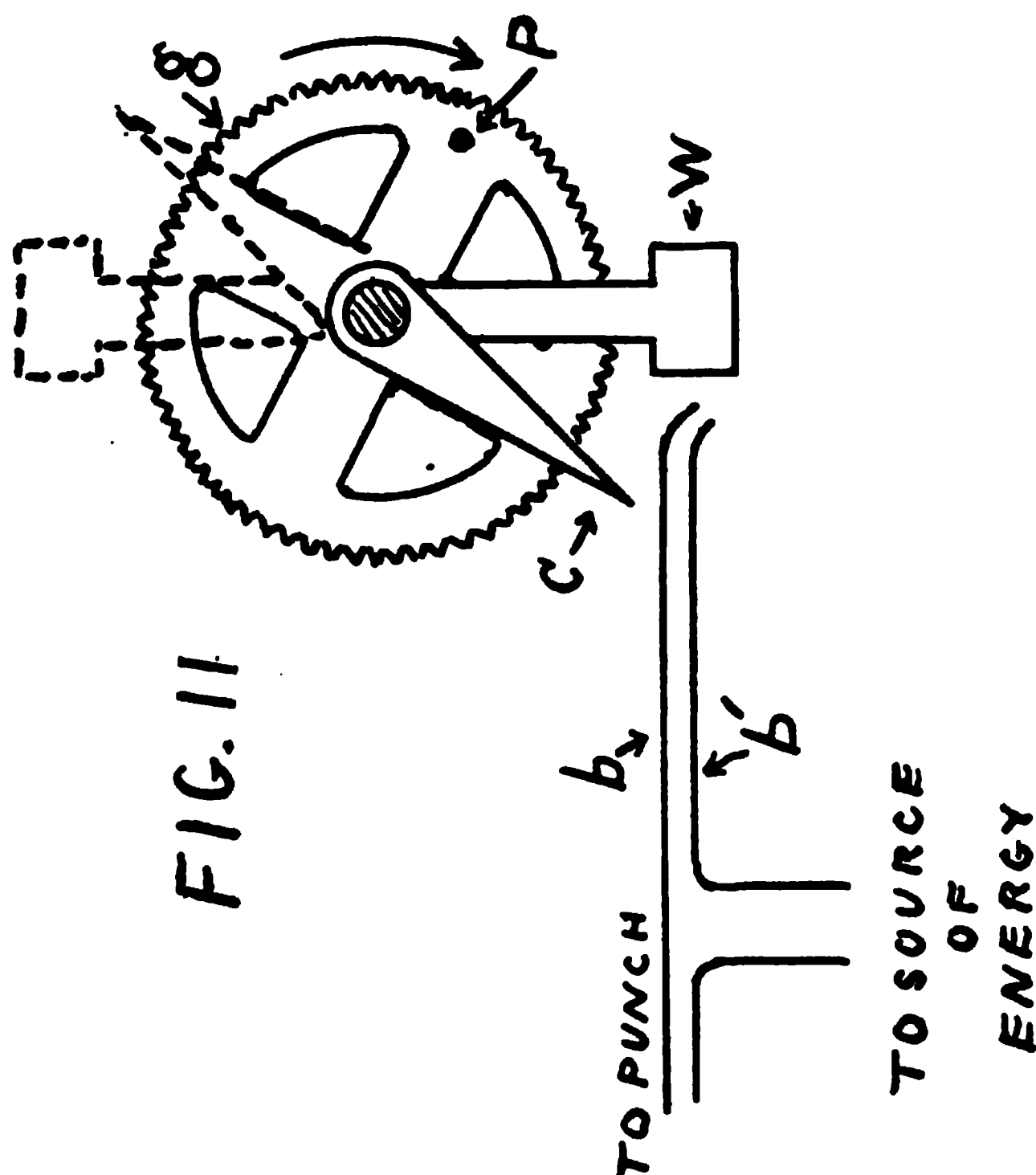


Fig. 10.—Ingalls Relay Demand Indicator.

THE INGALLS RELAY DEMAND INDICATOR.

This device may be regarded as an auxiliary to the watt-hour meter by means of which the number of revolutions made by that instrument



CONTACTOR FOR INGALLS RELAY DEMAND INDICATOR

in a given time (half an hour) may be obtained from a record impressed on a uniformly moving paper tape. From this record, knowing the disc constant of the watt-hour meter and the gear ratio of the

contact arrangement which is described later, the demand may be calculated.

The Edison Company has 61 of these indicators installed for billing purposes (June 30, 1911).

Fig. 10 shows the general appearance of one of these devices adapted to obtain on a single tape the records from two watt-hour meters. A very powerful double-spring clock is used to drive the drum (D) over which the paper tape (T) is passed; to prevent slipping of the tape the drum is armed with needle points. By the clockwork the tape is drawn from the magazine (M) and caused to pass in front of the punch (P). W is the take-up roll; it is actuated by a friction drive from the clock.

Whenever a current is passed through one of the magnets of the punch (P) the corresponding armature is drawn in and a perforation made. Once each hour, by the clock, a mark is printed on the tape.

To actuate the punch a contact arrangement is added to the counter of the watt-hour meter; this is shown diagrammatically in Fig. 11. The wheel (g) is driven by the counter and revolves once for each 100 revolutions of the meter disc. The contactor (C) and the weight (W) are in one piece, which is loose on the shaft. The pin (P) is long enough to engage with this piece and then push it to the dotted position, when it suddenly falls forward. This causes the contactor (C) to connect b and b' (which are in reality in the same plane) for an instant, thus closing the circuit through the magnets of the punch, which then perforates the tape. After 100 revolutions of the meter disc this operation is repeated. The appearance of the record thus obtained is seen in Fig. 12.

The tapes are replaced once a week; when this is done the time of the beginning of the record is recorded on the tape, as is the time of the ending of the record.

To find the maximum demand the tapes are examined and those parts where the perforations appear to be closest together are selected for measurement, a scale of a length corresponding to the motion of the tape in half an hour at that point is applied to it, and the number of whole spaces and fractions in this length is determined. Each one of the spaces corresponds to 100 revolutions. Thus the number of revolutions made by the watt-hour meter in half an hour is found. The ordinary formula for the watt-hour meter is

$$\text{Kilowatts} = \frac{N \times K \times 3600}{t \times 1000},$$

where N is the number of revolutions of the meter disc occurring in t seconds and K is the disc constant of the meter. The kilowatts demand corresponding to one space on the paper tape, that is, to 100 revolutions, if they occurred in one-half an hour would then be

$$\frac{100 \times K \times 3600}{30 \times 60 \times 1000} = 0.2 K$$

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95
96
97
98
99
100

Fig. 13.

Fig. 13. — 266430. Type W Polyphase Maximum Demand Indicator.

If instead of one space in half an hour we have any other number, the above is simply multiplied by the number of spaces. To illustrate: take the tape shown in Fig. 12 and assume that the disc constant (K) of the watt-hour meter is 25. Then the kilowatts demand is given by

$$\text{K.W. demand} = .2 \times 25 \times (\text{number of spaces in half an hour}).$$

Where the perforations are closest together there are 8 spaces in half an hour, so the demand is

$$0.2 \times 25 \times 8.0 = 40 \text{ K.W.}$$

It will be noticed that the device gives information of value other than the maximum demand, for it tells just how the customer's load varies, and gives the hour at which the maximum demand is reached. This may or may not be at the time of the peak of the load on the station.

The accuracy of this device depends on two things: first, the accuracy of the watt-hour meter to which it is applied; second, on the rate of the clock mechanism. An examination of a number of tapes taken at random from the files of the Edison Company showed these extreme variations: one clock lost thirty-two minutes in one hundred and sixty-five hours, or on the average was in error by about 3-10 of 1 per cent. Another clock gained twenty-three minutes in one hundred and sixty-six hours, an average error of a little over 2-10 of 1 per cent. The error which is of importance is thus that due to the watt-hour meter.

THE GENERAL ELECTRIC TYPE W WATT DEMAND INDICATOR.

Although this instrument is in common use throughout the State, it is not employed by the Edison Electric Illuminating Company of Boston, and consequently was not included in the first part of this report.

This device is made for use on alternating current circuits and for polyphase work only; it is essentially a polyphase-indicating watt-meter of the induction type, which is provided with an exceedingly strong electromagnetic damping system, so that its response to variations of the load is rendered very slow. The indications are given on a dial which is provided with two pointers, one of which indicates the load (subject to the time-lag of the instrument); the other shows the sustained maximum to which the load has risen. Fig. 13 gives a general view of the instrument and Fig. 14 shows in diagram its essential features. W_1 and W_2 are the two wattmeter elements which are essential to the measurement of power in the ordinary polyphase systems, for, as is usual in such measurements, the "two wattmeter method" is here employed; D_1 is the disc in which currents are induced by the elements W_1 and W_2 ; these currents react with the magnetic fields set up by W_1 and W_2 and cause the indication of the instrument. The

disc is made of brass in order that the effect of temperature changes may be minimized; this is because the electrical resistance of alloys like brass varies much less with changes of temperature than does that of pure metals, for instance, copper.

The controlling spring against which the movable system deflects is at S. In reality three springs are used in series; this is done in order

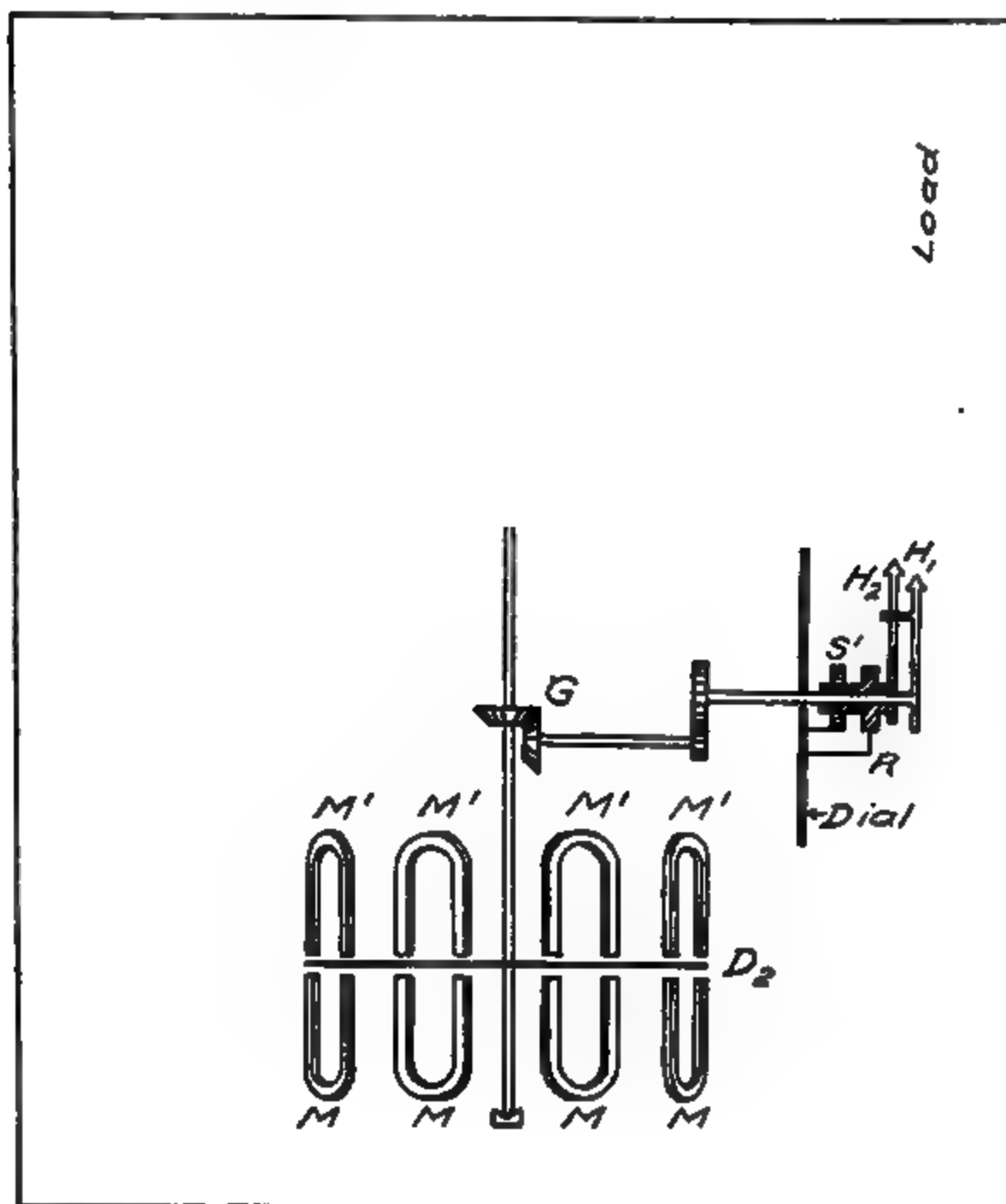


Fig. 14.

that the movable system may be enabled to make 3 complete revolutions without complications arising from the spring being twisted too tightly.

The damping disc (D_2) is of copper and rotates between two sets of magnets (M and M'); each magnet is adjustable vertically so that the strengths of the magnetic fields through which the disc moves may be varied; in this manner the strengths of the currents induced in the disc when it turns, and consequently the retardation experienced by it, may be altered, by this means the rapidity with which the instrument

responds to changes of load may be adjusted. It is intended that the magnets be so set that 90 per cent. of the registration is produced in five consecutive minutes.

The hand (H_1) is driven from the spindle by a system of gearing, and moves over a dial graduated in kilowatts; as it moves it pushes before it the hand (H_2), which is loose on the shaft and provided with a ratchet (R) and a light spring (S'), which tends to turn the hand back against the ratchet; the result is that H_2 is pushed up to the maximum by H_1 and left there, when (owing to the decrease of the load) H_1 returns toward zero. The instrument may be set by opening the case and raising the ratchet, this allows S' to return the pointer H_2 to zero, H_1 being previously turned back to that point. It will be seen that this device gives the power which is being used at any time, as well as the maximum demand in kilowatts; it gives no indication of the time when the maximum demand was called for.

APPENDIX B.

THE EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON.

SCHEDULE OF RATES — COMMERCIAL.

The following prices for electricity are in force, commencing June 1, 1910: —

Schedule A, Lighting Rates. — Applies to all lighting customers who do not make yearly agreements, embodying certain guarantees.

Schedule B, Power Rates. — Applies to all power customers.

Schedule C, Yearly Lighting Rates. — Applies to all lighting customers who make yearly agreements, embodying certain guarantees.

Schedules D and D-1, Permanent Electric Rates. — Apply to all customers who make long-term agreements, embodying certain guarantees.

SCHEDULE A. — LIGHTING RATES — COMMERCIAL.

Electricity for any use will be sold, under this schedule, to any customer who has signed an agreement for electric service, embodying the terms and conditions of the company.

A price of 11 cents per kilowatt hour will be charged for all electricity furnished under this schedule, and the minimum charge will be \$1 per month per meter.

SCHEDULE B. — POWER RATES — COMMERCIAL.

Electricity for power use will be sold, under the following schedule, to any customer who has signed an agreement for electric service, embodying the terms and conditions of the company. "Power" is defined as general motor service, cooking, heating, electroplating, charging storage batteries, and similar service, but does not include the running of dynamos for electric lighting purposes.

A price of 12 cents per kilowatt hour will be charged for all electricity furnished under this schedule, with the following deductions, and the minimum charge will be \$1 per month per meter:—

First Deduction.—A price of 9 cents per kilowatt hour will be charged for all electricity furnished in excess of 23 and not exceeding 103 hours' use of the demand¹ for each month.

Second Deduction.—A price of 6 cents per kilowatt hour will be charged for all electricity furnished in excess of 103 hours' use of the demand for each month.

Third Deduction.—Whenever that portion of a customer's bill which is calculated at the 9 cent and 6 cent rate, or both, exceeds \$10 per month, a discount of 70 per cent. will be allowed on such excess over \$10.

Fourth Deduction.—Whenever a customer's bill, after the foregoing deductions have been made, exceeds \$100 per month, a discount of 30 per cent. will be allowed on all in excess of \$100.

Fifth Deduction.—Whenever a customer's bill, after the foregoing deductions have been made, exceeds an average rate of 11 cents per kilowatt hour, a deduction will be made to make the average rate 11 cents per kilowatt hour, but in no case less than \$1 per month.

SCHEDULE C. — YEARLY LIGHTING RATES — COMMERCIAL.

Electricity for any use will be sold, under the following schedule, to any customer who has signed an agreement for yearly electric service, embodying the terms and conditions of the company.

Fixed Costs.

A price of \$60 per year, payable in equal monthly instalments, will be charged per kilowatt of the demand² up to and including 15 kilowatts.

¹ The demand is the greatest amount of electricity used by the customer at any one time. Until such time as the company installs one or more indicators, automatically to determine the demand, either in whole or in part, it may estimate the demand. The demand on any circuit, when an indicator is installed, will be the average of the regular monthly readings of the indicator, between October 1 and the following February 1 in each year. The demand so determined, beginning February 1 of each year, shall be the demand for the next twelve months, except that the demand in no case shall be less than $\frac{1}{2}$ of the highest reading during the previous twelve months, and in no case shall be less than 1 kilowatt; and provided that if any direct-connected elevator (as defined below) be installed the demand shall not be taken at less than 10 kilowatts. A direct-connected elevator is defined as being an elevator run in guides and in which the car starts at the same time as the motor. The customer has the privilege of having the indicator cut out one night in each month, provided a 48-hour written notice is given to the company.

² The demand is the greatest amount of electricity used by the customer at any one time. Until such time as the company installs one or more indicators, automatically to determine the demand, either in whole or in part, it may estimate the demand, but in no case shall it be taken at less than $\frac{3}{10}$ of a kilowatt. The demand on any circuit, when an indicator is installed, will be the greatest reading of the indicator between November 1 and the following February 1 of each year, and the demand so determined, beginning February 1 of each year, shall be the demand called for by the agreement for the next twelve months, except that the demand in no case shall be less than $\frac{1}{2}$ of the highest reading during the previous twelve months. The customer has the privilege of having the indicator cut out one night in each month, provided a 48-hour written notice is given to the company.

First Deduction. — A price of \$36 per year, payable in equal monthly instalments, will be charged per kilowatt of the demand for all kilowatts exceeding 15 and up to and including 55.

Second Deduction. — A price of \$30 per year, payable in equal monthly instalments, will be charged per kilowatt of the demand for all kilowatts exceeding 55.

These prices do not include the supply of electricity.

Running Costs.

A price of 5 cents per kilowatt hour will be charged for all electricity furnished under this agreement up to and including 1500 kilowatt hours per month.

First Deduction. — A price of 3 cents per kilowatt hour will be charged for all electricity furnished under this agreement exceeding 1500 kilowatt hours and up to and including 5500 kilowatt hours per month.

Second Deduction. — A price of 2½ cents per kilowatt hour will be charged for all electricity furnished under this agreement exceeding 5500 kilowatt hours per month.

SCHEDULE D. — PERMANENT ELECTRIC RATES.

Electricity for any use in specified premises will be sold, under the following schedule, to any customer who has signed an agreement for at least 50 kilowatts of permanent electric service, embodying the terms and conditions of the company.

Fixed Costs.

A price of \$60 per year, payable in equal monthly instalments, will be charged per kilowatt of service up to and including 15 kilowatts.

First Deduction. — A price of \$36 per year, payable in equal monthly instalments, will be charged per kilowatt of service for all kilowatts exceeding 15 and up to and including 55.

Second Deduction. — A price of \$30 per year, payable in equal monthly instalments, will be charged per kilowatt of service for all kilowatts exceeding 55.

Third Deduction. — A price of \$15 per year, payable in equal monthly instalments, will be charged per kilowatt of service for all kilowatts exceeding 155, provided that the customer has applied for high tension transmission line service.

These prices do not include the supply of electricity.

Running Costs.

A price of 5 cents per kilowatt hour will be charged for all electricity furnished under this agreement up to and including 1500 kilowatt hours per month.

First Deduction. — A price of 3 cents per kilowatt hour will be charged for all electricity furnished under this agreement exceeding 1500 kilowatt hours and up to and including 5500 kilowatt hours per month.

Second Deduction. — A price of 1½ cents per kilowatt hour will be charged for all electricity furnished under this agreement exceeding 5500 kilowatt hours and up to and including 105,500 kilowatt hours per month.

Third Deduction. — A price of 1¼ cents per kilowatt hour will be charged for all electricity furnished under this agreement exceeding 105,500 kilowatt hours per month.

The above prices include lamps and care.

Optional Deduction. — If lamps and care are not supplied by the company, it will deduct from the net amount of the bill, as otherwise rendered, ½ cent per kilowatt hour.

Excess Costs.

The company will provide capacity for intermittent overloads up to 40 per cent. in excess of the kilowatts applied for by the customer.

An excess price of 20 cents per kilowatt hour will be charged for all electricity furnished at any time in excess of the kilowatts applied for by the customer.

SCHEDULE D-1. — PERMANENT ELECTRIC RATES (THEATRICAL).

Electricity for any use in specified premises will be sold under the following schedule to any customer who has signed an agreement for not over 150 kilowatts of permanent theatrical electric service, embodying the terms and conditions of the company.

Fixed Costs.

A price of \$2,160 per year, payable in equal monthly instalments or in such instalments in advance as are convenient to the customer, will be charged.

This price does not include the supply of electricity.

Running Costs.

A price of 3 cents per kilowatt hour will be charged for all electricity furnished under this agreement.

The above prices include lamps and care.

Optional Deduction. — If lamps and care are not supplied by the company, it will deduct from the net amount of the bill, as otherwise rendered, ½ cent per kilowatt hour.

Excess Costs.

An excess price of 20 cents per kilowatt hour will be charged for all electricity furnished at any time in excess of 150 kilowatts.

APPENDIX I.—COURT DECISIONS.

The Commonwealth of Massachusetts.

SUPREME JUDICIAL COURT.

AMESBURY AND SALISBURY GAS COMPANY

v.

CHRISTOPHER J. GIBNEY.

210 Mass. 498.

Essex. Nov. 9, 1911 — Jan. 3, 1912.

Present: RUGG, C.J., HAMMOND, BRALEY, SHELDON and DE-COURCY, JJ.

Contract upon an Account annexed for "Rent due on Gas Meters."

Writ in the Second District Court of Essex, dated Aug. 3, 1909.

On appeal to the Superior Court, the case was tried before Fox, J. It appeared that the plaintiff relied upon that part of R. L., c. 58, sect. 12, which reads, "No charge for the use of a meter during any portion of twelve consecutive months shall be made if the consumer during said time uses gas to the value of seven dollars;" that the items of the declaration represented the amounts by which the value of gas used at each meter each year fell short of \$7; and that the meters were the property of the plaintiff and were of an automatic variety, whose operation was described in the bill of exceptions as follows: "Consumers wishing gas could deposit a 25-cent piece into them through a slot. Gas then would flow through the meters until a certain amount had passed, when the meters would automatically stop the flow until another coin was inserted."

During the direct examination of a witness for the plaintiff, counsel for the defendant stated to the presiding judge: "We admit that meter rent is collected and we admit under the law it may be demanded."

Other facts are stated in the opinion.

At the close of the evidence the defendant asked the presiding judge to rule and instruct the jury that, "if the plaintiff failed

during each of the years in question to keep throughout the year a supply of gas to flow through the meters of the defendant's house, and the defendant did not use gas to the value of \$7 through any meter during each of those years, the plaintiff could not legally make a charge against the defendant for the use of a meter during either of those years."

The ruling was refused. The jury returned a verdict for the plaintiff on two items of the declaration in the sum of \$5; and the defendant alleged exceptions.

The case was submitted on briefs.

R. E. Burke & E. E. Crawshaw, for the defendant.

A. W. Reddy, for the plaintiff.

HAMMOND, J. Upon the evidence including the admission made at the trial by the defendant through his counsel, the jury might have found that the season for the furnishing of gas by the plaintiff to the summer resort where the defendant's houses were situated did not exceed four months in a year; that during the season of 1908 the plaintiff's meters for the use of which this action was brought were in the defendant's houses at his request or desire; that before the beginning of the year 1908 the defendant duly received a notice from the plaintiff to the effect that the latter would enforce the law allowing it as a gas company "to get \$7 from each consumer as a minimum, and that if that amount was not paid his meters would be removed and the supply of gas stopped;" that under the circumstances the defendant never expected to have the gas turned on except at the usual annual season of four months, and that he never requested to have it turned on at any other time; that he made no reply to such communication nor asked the plaintiff to take out the meters, but actively used them in procuring gas for his use during the whole season of 1908 without making any protest whatever. As a natural inference from these findings they might further find that the defendant assented to the terms of the notice, and that the meters were used by him in compliance therewith; that these terms entered into the contract between him and the plaintiff; and that in accordance with the contract as thus established there were due to the plaintiff the sums named in the third and fourth items. This would make out a case for these items which were the only ones on which the jury held the defendant.

There is nothing in R. L., c. 58, sect. 12, upon which the defendant relies, inconsistent with the making of such a contract.

Exceptions overruled.

United States of America.**THE SUPREME COURT.****LINCOLN GAS AND ELECTRIC LIGHT Co.****v.****CITY OF LINCOLN.**

Appeal from the Circuit Court of the United States for the District
of Nebraska.

223 U. S. 349.

Argued Dec. 6, 7, 1911. — Decided Feb. 19, 1912.

The facts which involve the validity of an ordinance of the city of Lincoln, Neb., regulating charges for gas furnished to consumers, are stated in the opinion.

Mr. Justice Lurton delivered the opinion of the court.

This case involves the validity of an ordinance regulating the appellant's charges for gas furnished to consumers, and forbidding a charge in excess of \$1 per 1,000 feet. The bill assailed the rate as confiscatory, and, therefore, a taking of property without compensation. The ordinance rests upon legislative power to regulate the charges of such public-service companies.

The sufficiency of the price prescribed to produce a fair profit upon the value of the property employed in the business is to be strongly presumed. The burden of showing its confiscatory character rests, therefore, upon the complaining company.

The court below, upon a final hearing, held that the appellant had not made out its case, and dismissed the bill, with leave to renew the litigation, if, upon actual operation under the ordinance, the returns upon its business should not prove reasonably remunerative. The ordinance was never put in force. Within a few days after it went into effect this bill was filed and an injunction, *pendente lite*, granted, which was continued in force down to the final decree, and when this appeal was allowed, was, by order of the court allowing it, continued pending the appeal, under a bond conditioned to account for all overcharges if the ordinance should be sustained.

The case was not referred to a master, as is the usual course in such cases, although there was a great mass of conflicting evidence relating to the value of the plant, cost of operation and gross and net income. Neither did the court make specific findings of fact to which specific objection could be made. Such facts as may

be said to constitute "findings of fact" appear in the way of large conclusions in the course of the opinion found in the record.

In this, as in every other legislative rate case, there are presented three questions of prime importance: first, the present reasonable value of the company's plant engaged in the regulated business; second, what will be the probable effect of the reduced rate upon the future net income from the property engaged in serving the public; and, third, in ascertaining the probable net income under the reduced rates prescribed, what deduction, if any, should be made from the gross receipts as a fund to preserve the property from future depreciation.

The valuation fixed by the court is the main point of attack. That the company is entitled to a fair return upon the value of the property at the time of the inquiry, is the rule. (San Diego Land & Town Co. v. Jasper, 189 U. S. 439, 442.)

The court, as one means of finding the present value of the gas-making plant, found that the present cost of replacing it would be \$566,073.59. The items which enter into this valuation, and the reason for reaching this result, as stated in the opinion, are shown by the paragraphs here set out:—

In determining for what amount the plant could be reconstructed, I have accepted in the main the testimony of complainant's witnesses as being the most satisfactory, and I find that the plant could be reconstructed for the following sums:—

Coal-gas apparatus,	\$80,605 00
Water-gas apparatus,	29,278 00
Mains in dirt streets,	90,578 00
Mains in paved streets,	130,027 00
Gas services, etc.,	107,106 82
Gas meters in use,	36,282 90
Meter connections,	6,304 00
Piping for gas ranges,	16,500 00
	<hr/>
	\$496,681 72
Engineering expenses (2½ per cent.),	12,417 04
Real estate,	4,000 00
Present value of buildings,	24,643 00
Contingent expenses in construction,	25,000 00
Cost of organizing company,	3,000 00
	<hr/>
	\$565,741 76

While the evidence as to the depreciation is somewhat vague and indefinite, I think, upon the items aggregating said \$496,681.72, there should be deducted for depreciation 10 per cent., amounting to the sum of \$49,668.17, making the total present valuation of the plant \$516,073.59; but it is apparent that, for the successful and economical operation of the plant, a certain amount of working capital is required. This amount I find to be \$50,000, making the total value of complainant's investment, upon which it is entitled to a reasonable return, \$566,073.59.

While it is true that the testimony shows that the complainant has not such working capital, but has purchased upon credit the supplies necessary to operate, yet I think that, in determining what is a reasonable compensation, a working capital should be considered.

But the appellant does not accept the valuation thus fixed. It contends that there should be added to that the following:—

Steam boiler for water gas,	\$2,225 00
Underestimate of present value of buildings,	10,000 00
Underestimate of working capital,	10,000 00
Underestimate of meter connections,	6,102 00
Underestimate contingent expenses of construction,	37,500 00
Interest on idle capital during construction,	40,000 00
Promotion of business, or going value and franchise, as elements in replacement value,	100,000 00
	<hr/>
	\$205,852 00
Add court's valuation,	566,073 59
	<hr/>
	\$771,925 59

The appellee, on the other hand, in support of the general decree dismissing the bill, joins issue upon each of these items, and insists that if the court shall see fit to go into the evidence, it will find that the plant has been greatly overvalued. It particularly objects to the large item of \$107,000 for gas service, and to the item of \$50,000 added to the value of the property as "working capital," and says that the incorrectness of this is seen in the admission that the appellant has in fact no such working capital engaged in the business. Appellee further contends that the "expense of operation" in 1907 includes reconstruction or replacement work, and that such items enlarge the operating expenses of that year unduly, and correspondingly reduce the net income. If the expense of operating the plant for that year is to be accepted as the standard by which the operating expenses of future years are to be estimated, the objection is serious if the facts are as claimed.

The appellant further claims that the sum of \$8,000 deducted from the net income, as a permanent protection against future depreciation in the value of the plant, is too small, and should be much larger. Upon this there was conflicting expert testimony. Upon all of these questions of valuation and of operating expense there is much evidence, and much of it conflicting. The findings of the court, as before stated, are of too comprehensive a character to be of much help in dealing with the details which are embraced.

But it is urged that even upon the valuation fixed by the court the estimated future net income will be but little over 5 per cent., and, in consideration of the character of the property and the high average interest rate prevailing in Nebraska, this is not a reasonable or fair return, and demonstrates the confiscatory character of the ordinance. But if the \$8,000 first deducted from the receipts and laid aside as a permanent fund to meet future depreciation be taken into account, the estimated future net income with the rate in force will exceed 6 per cent.

Nor did the Circuit Court hold that a net profit of $5\frac{2}{10}$ per cent. would be a fair and reasonable return upon the value of the property employed. What the court found was, in substance, that at least an income of that amount was certain, aside from the amount reserved for a permanent preservation fund. What the court said was this:—

While complainant, I think, is entitled to at least 6 per cent. upon the money invested, it does not appear that the reduced rate would not yield that sum. It is quite probable that the reduced rate would considerably increase the consumption of gas and thus increase the complainant's net profits.

The record shows that in June, 1904, complainant voluntarily reduced its rates from approximately \$1.50 per 1,000 to \$1.20, and the amount of gas consumed, and net profits resulting, considerably increased. The inquiry in cases of this character is not alone what has complainant theretofore earned, but it is what will be the effect of the ordinance reducing the rate upon the future net earnings of the company, and it devolves upon the complainant to show not that the past rates have not produced a reasonable return, but that the rate prescribed by the ordinance will not in future produce a reasonable return,

This case is full of difficult and grave questions. Such conclusions as to facts as are found in the court's opinion are not helpful when, as here, errors are assigned which open up substantially

the whole case. The cause should have gone at the beginning to a skilled master, upon whose report specific errors could have been assigned and a ruling from the court obtained.

In the case of *Chicago, M. & C. Ry. v. Tompkins*, 176 U. S. 167, 179, 180, this court was called upon to review a decree upholding a state-made railroad rate which had been unsuccessfully attacked as confiscatory. In that case, as in this, the matter had not been referred to a master, but had been decided by the Circuit Court upon the whole of the evidence. It came to this court upon such a variety of questions of fact and law as to practically open up the whole case. Impressed with the seriousness of the questions involved, this court remanded the case for a reference and report by a skilled master. As to this practice, this court said: —

The question then arises what disposition of the case shall this court make? Ought we to examine the testimony, find the facts, and from those facts deduce the proper conclusion?

It would doubtless be within the competency of this court on an appeal in equity to do this, but we are constrained to think that it would not (particularly in a case like the present) be the proper course to pursue. This is an appellate court, and parties have the right to a determination of the facts in the first instance by the trial court. Doubtless if such determination is challenged on appeal it becomes our duty to examine the testimony and see if it sustains the findings, but if the facts found are not challenged by either party, then this court need not go beyond its ordinary appellate duty of considering whether such facts justified the decree. We think this is one of those cases in which it is especially important that there should be a full and clear finding of the facts by the trial court. The questions are difficult, the interests are vast, and therefore the aid of the trial court should be had. . . . We are of opinion that a better practice is to refer the testimony to some competent master, to make all needed computations and find fully the facts. It is hardly necessary to observe that in view of the difficulties and importance of such a case it is imperative that the most competent and reliable master, general or special, should be selected, for it is not a light matter to interfere with the legislation of a State in respect to the prescribing of rates, nor a light matter to permit such legislation to wreck large property interests.

The question as to what sum, if any, upon the facts of this case should be annually deducted from the net income as a permanent maintenance or replacement fund, is novel and presents a grave problem.

Conflicting expert evidence has been introduced presenting radi-

cally different theories as to the necessity, character and amount of such a fund, and as to how it should be created, preserved and expended. Some of this evidence puts the sum to be annually deducted and set aside as a permanent fund at 5 per cent. upon the value of the plant at the time of deduction. It is obvious that if this view is sound there will be little or nothing of the net income left for distribution among shareholders, and no basis for legislative rate reduction now, and none likely until such time as the income from the permanent fund will keep up the plant. The work of reconstructing and replacing old parts by new in a plant of this kind must, in the very nature of things, be going on constantly. Heretofore it seems to have been so well and continuously done that the value of the plant as a whole has suffered less than 1 per cent. per annum if the total depreciation be distributed through the more than thirty years of operation. So far as can be now seen, reconstruction and replacement charges have, up to the present time, been borne by current revenue, with the result that the revenue remaining in the single year of 1907 showed a net surplus of \$73,851.83, a sum large enough, if distributed to shareholders upon the basis of the value of the property engaged in the business as claimed by appellant, to have paid a dividend of 10 per cent., and about 15 per cent. upon the valuation settled by the Circuit Court.

There is no finding as to the extent of the application of the revenue of 1907 to reconstruction or replacement as distinguished from current repairs and operating expenses. It is, however, plainly inferable that the revenue of that year was used to the extent necessary. If, in the past, reconstruction and replacement charges have been met out of current expenses, the fact must be taken into consideration, both when we come to estimating future net income, and in determining what sum shall be annually set aside to guard against future depreciation. This doubtless influenced the court below in settling upon the amount of \$8,000 as a sufficient annual appropriation of income as insurance against future depreciation. But if the constantly recurring necessity to do reconstruction or replacement work was in 1907 met out of the current income of that year, thereby diminishing the net income, the fact should be given weight in estimating future net income; otherwise there will be a double deduction on that account, first, by paying such charges as they occur, and thereafter by a contribution out of the remaining income for the same object.

The facts found are not full enough to at all justify this court in dealing with this problem of a replacement fund.

There should be a full report upon past depreciation, past expense for reconstruction or replacement, and past operating expenses, including current repairs. We should be advised as to the gross receipts for recent years, and just how these receipts have been expended. Then the amount to be set aside for future depreciation will depend upon the character and probable life of the property and the method adopted in the past to preserve the property. It can be readily seen that the amount to be annually set aside may be such as to forbid rate reductions because of the requirement of such a fund. The matter is one first for a skilled master, who should make a full report upon the value of the property, the receipts and the expenses of operation and the sums paid out on reconstruction and replacements, and in dividends in recent years.

For the reasons indicated, we direct that the decree be —

Reversed, and the cause remanded to the district court to refer the case to a competent and skilled master, to report fully his findings upon all of the questions raised by either party, separately, and with leave to both parties to take any additional evidence they may wish within a time to be fixed by the court, and that that court upon such report proceed as equity shall require.

It is further ordered for the protection of all parties that the injunction granted in the court below continue in force until final decree there, upon condition that the appellant enter into a new bond, with sureties satisfactory to the court below, to account for all overcharges to consumers since the original restraining order in the event the ordinance shall be sustained, and that if such bond be not made within twenty days after the filing of the mandate the injunction stand dissolved.

United States of America.**THE SUPREME COURT.****CEDAR RAPIDS GAS LIGHT COMPANY****v.****CITY OF CEDAR RAPIDS.****Error to the Supreme Court of the State of Iowa.****223 U. S. 655.****Argued Feb. 29, 1912.—Decided March 11, 1912.**

The facts, which involve the validity, under the contract and due process provisions of the Constitution of the United States, of an ordinance of the city of Cedar Rapids, Ia., fixing the price of gas at 90 cents per 1,000 cubic feet, are stated in the opinion.

Mr. Justice Holmes delivered the opinion of the court.

This is a bill brought by the plaintiff in error to restrain the enforcement of an ordinance fixing 90 cents per 1,000 cubic feet as the highest price to be charged in Cedar Rapids for gas. As the ordinance was passed in 1906 and had not yet been enforced, the Supreme Court of the State dismissed the bill without prejudice to a later suit after it should have been given a fair test (144 Iowa, 426). The plaintiff, having specially set up that the ordinance violated the contract clause of the Constitution (Art. I., sect. 10), and the Fourteenth Amendment, brings the case here. There is a motion to dismiss, but the constitutional questions appear upon the record and are not so frivolous as to warrant that summary course.

The supposed contract arises from a term in the ordinance under which the plaintiff was granted a renewal of its franchise in 1896. By section 3, "in consideration of the privileges herein granted to said company, it shall furnish to the inhabitants of said city gas for lighting at a price not to exceed \$1.80 per 1,000 feet, and 20 cents per 1,000 cubic feet discount if consumers pay on or before the 10th of each month after consumption," etc. It is admitted that under the laws of Iowa the rate could be changed by the city, but it is argued that the quoted words import a contract that it shall not be changed to such an extent as to make impossible the offer of a discount for prompt payment; that being the cheapest and most efficient way of collecting the price of the gas. The State court assumed that there was no contract in the case, and in dis-

cussing what it treated as the sole question, whether the plaintiff would be deprived of a fair compensation for its services, pointed out that the company could secure payment by requiring a deposit in advance or by making other reasonable rules.

We are of opinion that there was no contract on the part of the city that the price should be kept high enough to allow a discount for prompt payment. The general power reserved to regulate rates was limited only by the Fourteenth Amendment. The words relied upon by the plaintiff express its promise in consideration of the privileges granted, not a promise by the city. (*Knoxville Water Co. v. Knoxville*, 189 U. S. 434, 437.) It is true that the contract was in the form of an ordinance, but the ordinance was drawn as a contract to be accepted and it was accepted by the plaintiff; it contained reciprocal undertakings, the one in question being that of the plaintiff, as we have said; and it was subject to the power retained by the city to regulate rates. That power, it was expressly provided by the Iowa statute, was not to be abridged by ordinance, resolution or contract. (Code of 1897, sect. 725, 22 G. A. (1888), c. 16.)

Upon the issue under the Fourteenth Amendment, the plaintiff argues on the strength of Rev. Stat., sect. 709, that the facts are open to re-examination here. By that section it is provided that a writ of error to a State court "shall have the same effect as if the judgment or decree complained of had been rendered or passed in a court of the United States." It is argued that as the decree of a State court can be reviewed only by writ of error, the foregoing words give to a writ of error in a chancery case the effect of an appeal, and open the evidence to re-examination to the same extent as upon an appeal. A suggestion to that effect was made in *Republican River Bridge Co. v. Kansas Pacific Ry. Co.*, 92 U. S. 315, 317, but the practice and decisions from an early date have been the other way. (*Egan v. Hart*, 165 U. S. 188, 189; *Almonester v. Kenton*, 9 How. 1, 7; *Dower v. Richards*, 151 U. S. 658, 663; *Gardner v. Bonestell*, 180 U. S. 362, 365, 370; *Thayer v. Spratt*, 189 U. S. 346, 353; *German Savings & Loan Society v. Dormitzer*, 192 U. S. 125, 129; *Adams v. Church*, 193 U. S. 510, 513.)

But of course findings either at law or in equity may depend upon questions that are re-examinable here. The admissibility of evidence or its sufficiency to warrant the conclusion reached may be denied; or the conclusion may be a composite of fact and law, such as ownership or contract; or in some way the record may

disclose that the finding necessarily involved a ruling within the appellate jurisdiction of this court. Such questions properly saved must be answered, and, so far as it is necessary to examine the evidence in order to answer them or to prevent an evasion of real issues, the evidence will be examined. (Kansas City Southern Railway Co. v. Albers Commission Co., decided Feb. 26, 1912, *ante*. p. 573.) For instance, in this case the finding of the court that it was not prepared to say that a 90-cent rate was confiscatory may perhaps be taken to have been made subject to the admission that the rate was too low to permit a discount for prompt payment, and if so opens the question whether it was not confiscatory on that account, as matter of law. The plaintiff presents a number of such objections to the decision of the court below, although confused with arguments on pure matter of fact.

It would require a very clear case to warrant the reversal of the decree of a State court which, though final in form, merely postpones a decision upon the merits for further experience. The present one is far from being such a case. To refer in the first instance to the point just mentioned, we cannot say as matter of law that at 90 cents per 1,000 feet the company will be unable to collect payment without losses that will amount to a taking of its property. Then, again, although it is argued that the court excluded going value, the court expressly took into account the fact that the plant was in successful operation. What it excluded was the good will or advantage incident to the possession of a monopoly, so far as that might be supposed to give the plaintiff the power to charge more than a reasonable price. (Wilcox v. Consolidated Gas Co., 212 U. S. 19, 52.) An adjustment of this sort under a power to regulate rates has to steer between Scylla and Charybdis. On the one side, if the franchise is taken to mean that the most profitable return that could be got, free from competition, is protected by the Fourteenth Amendment, then the power to regulate is null. On the other hand, if the power to regulate withdraws the protection of the amendment altogether, then the property is nought. This is not a matter of economic theory, but of fair interpretation of a bargain. Neither extreme can have been meant. A midway between them must be hit.

In this case the court fixed a value on the plant that considerably exceeded its cost, and estimated that under the ordinance the return would be over 6 per cent. Its attitude was fair and we do not feel called upon to follow the plaintiff into a nice discussion of details. We, perhaps, should have adopted a rule as to deprecia-

tion somewhat more favorable to the plaintiff, or, it may be, might have allowed this or that item that the State court struck out, but there is nothing of which we can take notice in the case that could warrant us in changing the result or in saying that the plaintiff did not get as much as it could expect when leave was reserved for it to try again. . *Decree affirmed.*

The Commonwealth of Massachusetts.

SUPREME JUDICIAL COURT.

JOHN J. O'DONNELL, Administrator,

v.

INHABITANTS OF NORTH ATTLEBOROUGH.

212 Mass. 243.

Bristol. March 29, 1912 — May 27, 1912.

**Present: RUGG, C.J., MORTON, BRALEY, SHELDON and
DECOURCY, JJ.**

Municipal Corporations. Statute, Construction.

Tort by the administrator of the estate of Thomas E. O'Donnell, late of North Attleborough, for the death of the plaintiff's intestate on March 12, 1909, alleged to have been caused by his hand coming in contact with a guy wire leading to the top of a pole which formed a part of an electric lighting plant maintained and operated by the defendant, whereby the intestate received an electric shock from which he died. Writ dated May 8, 1909.

In the Superior Court the case was tried before Hall, J. At the close of the evidence the defendant asked the judge to order a verdict for the defendant on all the evidence, and also asked for a ruling that there was no evidence of the due care of the intestate. By agreement of the parties the jury returned a verdict for the plaintiff in the sum of \$4,000, and the judge reported the case for determination by this court. If either ruling should have been given, judgment was to be entered for the defendant; otherwise, judgment was to be entered on the verdict.

C. R. Cummings, for the plaintiff.

F. S. Hall, for the defendant.

SHELDON, J. The defendant town has an electric lighting plant under the provisions of the statutes now codified into R. L., c. 34, and the acts in amendment thereof. Section 28 of this chapter

provides that any city or town which does so shall be liable for "any injury or damage to persons or property caused" by the maintenance or operation of its plant "in the same manner and to the same extent as a private corporation." Other statutes provide that any "person or corporation" that negligently causes the death of a person shall under certain restrictions be liable, in an action by the executor or administrator of the deceased person, to damages as therein stated. (R. L., c. 171, sect. 2; St. 1907, c. 375.) This action is brought under the last-cited statutes to recover damages for the death of the plaintiff's intestate alleged to have been caused by the defendant's negligence in the maintenance and operation of its electric lighting plant. The first question presented is whether such an action against a town can be maintained.

It is suggested by the plaintiff that this point cannot now be raised because it does not appear to have been taken at the trial. But the defendant then contended that on the evidence a verdict should be ordered in its favor. It may now support this contention by any lawful argument. (*Parrot v. Mexican Central Railway*, 207 Mass. 184, 190; *Vermilye v. Western Union Telegraph Co.*, 207 Mass. 401, 405, 406.)

The power to maintain gas and electric lighting plants was given to cities and towns by St. 1891, c. 370. Section 16 of this act created the same liability for negligence which is now set forth in R. L., c. 34, sect. 28. This created no liability for death; for in 1891 there was no statute imposing upon such a private corporation liability for the death of one not in its service or employment, though caused by its negligence. See the discussion of this question by the present Chief Justice in *Brooks v. Fitchburg & Leominster Street Railway*, 200 Mass. 8. Such a liability was first created by St. 1897, c. 416, which gave a remedy against a corporation "operating a gas or electric light plant or system," which by its negligence or the unfitness or gross negligence of its servants or agents caused the death of a person who was not in its employ and who was exercising due diligence. This act, with St. 1898, c. 565, giving a similar remedy against any person or corporation, was afterwards codified into R. L., c. 171, sect. 2, which since has been amended by St. 1907, c. 375.

The question, therefore, is whether the general language, "a person or corporation," must be taken to include cities and towns. We state the question in this form because we think it plain that the codification of St. 1891, c. 370, sect. 16, into R. L., c. 34, sect. 28, cannot give any broader meaning to the words of the

original statute than that which they had at the time of their enactment. (Great Barrington v. Gibbins, 199 Mass. 527.)

It has been a general rule in our legislation that statutes passed for the regulation of the rights and liabilities of corporations are to be applied only to private or moneyed corporations and not to public or municipal corporations or *quasi* corporations. (Brooks v. Fitchburg & Leominster Street Railway, 200 Mass. 8, 18; Linehan v. Cambridge, 109 Mass. 212, 213.) As was said in the case last cited, the main purpose in the organization of the latter is political; the object of the Legislature in creating them has been to regulate the performance of public and political duties. (Ware v. Fitchburg, 200 Mass. 61, 67, 68. And see the cases gathered in Donohue v. Newburyport, 211 Mass. 561.) And it still remains true, although there have been two revisions of our statutes since the decision of Linehan v. Cambridge, *ubi supra*, that "the statutes of the Commonwealth which relate to . . . [cities and towns] . . . are collected and classified by themselves" (R. L., Title VII., cc. 25-34), while those which relate to the powers, duties and liabilities of corporations contain no reference to towns or cities, but are "devoted to the regulation of private and moneyed corporations." (R. L., Title XV., cc. 109-126.) It is especially noteworthy that the powers and liabilities of cities and towns which undertake to maintain gas or electric lighting plants are dealt with by themselves in one part of the provisions for the regulation of such public or governmental corporations (R. L., c. 34), while gas and electric light companies are considered, and provision is made for the conduct of their affairs and for the regulation of their powers and liabilities, by an entirely different set of requirements. (R. L., c. 121.) When the Legislature did intend that some of these latter provisions should be applicable to cities and towns, this was done by express enactment. (R. L., c. 121, sect. 38.) We have here a case for the application of the maxim, *expressum facit cessare tacitum*. The provisions of R. L., c. 34, sect. 30, do not relate to this subject-matter. So far as they afford ground for argument they tend to support the view which we have stated.

Accordingly, we are of opinion that the language of R. L., c. 171, sect. 2, like that of St. 1897, c. 416, and of St. 1898, c. 565, does not include within its scope municipal or *quasi* municipal corporations (Donohue v. Newburyport, *ubi supra*), and that this action cannot be maintained under either of those statutes.

It is no doubt true that where a business is lawfully conducted by a city or town, partly and incidentally, at least, for profit, the

city or town is liable at common law for negligence in its management thereof. (*Duggan v. Peabody*, 187 Mass. 349, 451; *Haley v. Boston*, 191 Mass. 291.) It may be, therefore, that the language of R. L., c. 34, sect. 28, is merely declaratory. But it is also true, as has been pointed out, that our laws give no civil remedy for the death of a human being except as provided by statute.

In other States a broader meaning has been given to similar statutes, and they have been held to include public or municipal corporations. (*Davis v. Rumney*, 66 N. H. 331; *McCaughey v. Tripp*, 12 R. I. 449; *Titman v. Mayor of New York*, 57 Hun, 469, affirmed in 125 N. Y. 729; *Murphy v. Board of Chosen Freeholders*, 28 Vroom, 245; *Merkle v. Bennington*, 58 Mich. 156; *Keever v. Mankato*, 113 Minn. 55.) But the course of our legislation does not permit us to follow these cases, whatever we otherwise might be inclined to do. Cases like *Commonwealth v. Boston & Maine Railroad*, 3 Cush. 25, and *Rains v. Oshkosh*, 14 Wis. 372, rest upon a different principle. As to cases under our employers' liability acts, see *Coughlan v. Cambridge*, 166 Mass. 268; *Murphy v. Needham*, 176 Mass. 422.

The plaintiff contends that he can recover for a defect in the street under R. L., c. 51, sect. 17. But his declaration sets out no such cause of action. It does not even aver that the place of the accident was a public way. Nor does it sufficiently charge any injury to the plaintiff's intestate in his lifetime, whereby conscious suffering was caused to him. The only averment as to that is that he "was killed." Plainly the declaration was framed only under R. L., c. 171, sect. 2. The Superior Court might allow an amendment if it appeared that justice so required; but we can pass only upon the record presented.

The other questions raised need not be considered. Upon the evidence a verdict for the defendant should have been ordered; and on the terms of the report judgment must be entered in its favor.

So ordered.

APPENDIX J.—NEW LEGISLATION, 1912.

ACTS.

CHAPTER 45.

An Act to define further the Authority of the Director of the Bureau of Statistics relative to the Certification of Town Notes.

Be it enacted, etc., as follows:

SECTION 1. Section two of chapter six hundred and sixteen of the acts of the year nineteen hundred and ten is hereby amended by adding at the end thereof the words: — except that said director, under such regulations as he may prescribe and if so authorized by a town treasurer with the approval of the selectmen, may deliver a certified note to the payee thereof: *provided, however*, that said director shall not certify any note as provided for in this act if it shall appear that the provisions of law relating to municipal indebtedness in the making of said note have not been properly complied with, nor shall he certify any note payable on demand, — so that the last sentence of said section two will read as follows: — If upon examination said director finds that the note appears to have been duly issued in accordance with the vote of the town, and to have been signed by the duly qualified officials thereof, as herein provided, he shall so certify, and the director shall thereupon return the note by registered mail to the treasurer of the town, except that said director, under such regulations as he may prescribe and if so authorized by a town treasurer with the approval of the selectmen, may deliver a certified note to the payee thereof: *provided, however*, that said director shall not certify any note as provided for in this act if it shall appear that the provisions of law relating to municipal indebtedness in the making of said note have not been properly complied with, nor shall he certify any note payable on demand.

SECTION 2. This act shall take effect upon its passage. [*Approved February 5, 1912.*]

CHAPTER 49.

An Act relative to refunding Certain Fees under the Law relative to the Issuing of Notes by Towns.

Be it enacted, etc., as follows:

SECTION 1. Section four of chapter six hundred and sixteen of the acts of the year nineteen hundred and ten is hereby amended by striking out the words "and shall turn over monthly to the treasurer of the commonwealth all such fees", in the third and fourth lines, and inserting in place thereof the words:— but he is authorized to refund any fee collected in case a note for certification is cancelled before money is obtained thereon, and he shall turn over monthly to the treasurer of the commonwealth all fees collected, less the amount of refunds; and the treasurer and receiver general is authorized to refund the amount of any fee deposited with him by said director for the certification of any note which may be cancelled before money is obtained thereon,— so as to read as follows:— *Section 4.* The director of the bureau of statistics shall establish a reasonable fee to be charged for every note certified; but he is authorized to refund any fee collected in case a note for certification is cancelled before money is obtained thereon, and he shall turn over monthly to the treasurer of the commonwealth all fees collected, less the amount of refunds; and the treasurer and receiver general is authorized to refund the amount of any fee deposited with him by said director for the certification of any note which may be cancelled before money is obtained thereon.

SECTION 2. The action of the director of the bureau of statistics in refunding fees collected for the certification of town notes in certain cases prior to the passage of this act is hereby ratified.

SECTION 3. This act shall take effect upon its passage. [*Approved February 5, 1912.*]

CHAPTER 229.

An Act further to prohibit the Making of Political Contributions by Business Corporations.

Be it enacted, etc., as follows:

SECTION 1. Section one of chapter four hundred and eighty-three of the acts of the year nineteen hundred and eight is hereby amended by striking out all after the word "shall", in the fourth line, and inserting in place thereof the words:— directly or indirectly give, pay, expend or contribute, or promise to give, pay,

expend or contribute any money or other valuable thing in order to aid, promote or prevent the nomination or election of any person to public office, or in order to aid, promote or antagonize the interests of any political party. No person or persons, no political committee and no person acting under the authority of a political committee, or in its behalf, shall solicit or receive from such corporation any such gift, payment, expenditure or contribution, or any promise to give, pay, expend or contribute, — so as to read as follows: — *Section 1.* No business corporation incorporated under the laws of, or doing business in this commonwealth, and no officer or agent acting in behalf of such corporation, shall directly or indirectly give, pay, expend or contribute, or promise to give, pay, expend or contribute any money or other valuable thing in order to aid, promote or prevent the nomination or election of any person to public office, or in order to aid, promote or antagonize the interests of any political party. No person or persons, no political committee and no person acting under the authority of a political committee, or in its behalf, shall solicit or receive from such corporation any such gift, payment, expenditure or contribution, or any promise to give, pay, expend or contribute.

SECTION 2. Section two of said chapter four hundred and eighty-three is hereby amended by inserting after the word “violation”, in the fifth line, the words: — or any person who violates or in any way knowingly aids or abets the violation of any provision of this act, — so as to read as follows: — *Section 2.* Any corporation violating the provisions of this act shall be punished by a fine of not more than ten thousand dollars, and any officer, director or agent of a corporation violating any provision of this act or authorizing such violation, or any person who violates or in any way knowingly aids or abets the violation of any provision of this act, shall be punished by a fine of not more than five thousand dollars or by imprisonment for not more than six months. [*Approved March 13, 1912.*]

CHAPTER 233.

An Act to provide for the Recovery of Certain Penalties incurred by Gas Companies.
Be it enacted, etc., as follows:

Section fourteen of chapter fifty-eight of the Revised Laws, as amended by section one of chapter four hundred and sixty-four of the acts of the year nineteen hundred and three, and by section three of chapter four hundred and eighty-three of the acts of the year

nineteen hundred and nine, is hereby further amended by striking out the words "a fine of one hundred dollars shall be paid by such company, city or town into the treasury of the commonwealth", in the twenty-eighth and twenty-ninth lines, and inserting in place thereof the following:—such company, city or town shall be liable to a fine of one hundred dollars, which may be recovered by an information in equity brought in the supreme judicial court by the attorney-general, at the relation of the board of gas and electric light commissioners, and when so recovered shall be paid into the treasury of the commonwealth,—so as to read as follows:—*Section 14.* The gas of every company which supplies more than fifty consumers, except gas made and used exclusively for heating, cooking, chemical and mechanical purposes, shall be inspected at least twice a year and as much oftener as the board of gas and electric light commissioners may determine. The gas shall be tested for illuminating power by means of a disc photometer and, during such test, shall be burned from the burner best adapted to it, which is at the same time suitable for domestic use, and at as near the rate of five feet an hour as is practicable. The board of gas and electric light commissioners shall, for the purpose of establishing a standard of purity for gas, and after a public hearing, determine how many grains of sulphur and ammonia per hundred cubic feet of gas may be permitted, and the board shall have power to change such standards from time to time, after a public hearing; but not more than thirty grains of sulphur per hundred cubic feet and no sulphuretted hydrogen shall be allowed.

If the gas of any gas company or of any city or town supplying gas is found on three consecutive inspections, or on three inspections made within a period of thirty consecutive days, to give less light than sixteen standard English candles or upon such averaging of inspections as the board may prescribe, to be below the standard of purity fixed under this act, unless such defect is in the opinion of the board due to unavoidable cause or accident, such company, city or town shall be liable to a fine of one hundred dollars, which may be recovered by an information in equity brought in the supreme judicial court by the attorney-general, at the relation of the board of gas and electric light commissioners, and when so recovered shall be paid into the treasury of the commonwealth.

If during the test the consumption of gas varies from five feet an hour, or the candle from one hundred and twenty grains an hour, a proportionate correction shall be made for the candle power.

Upon such complaint and after such notice and hearing as are provided for by section thirty-four of chapter one hundred and twenty-one of the Revised Laws the board may require a company to supply such gas as will give, when tested in the manner prescribed in this section, a light equivalent to such number of standard English candles, not less than sixteen, as said board may determine. [*Approved March 13, 1912.*]

CHAPTER 249.

An Act relative to the Recovery of Forfeitures and Penalties incurred by Gas or Electric Light Companies for neglecting to make Annual Return.

Be it enacted, etc., as follows:

Section thirty-two of chapter one hundred and twenty-one of the Revised Laws is hereby amended by striking out the last sentence, and inserting in place thereof the following:— All forfeitures incurred under the provisions of this act may be recovered by an information in equity brought in the supreme judicial court by the attorney-general, at the relation of the board of gas and electric light commissioners, and when so recovered shall be paid into the treasury of the commonwealth and applied to the payment of the expenses of the board,— so as to read as follows:— *Section 32.* Each such gas or electric light corporation or company neglecting to make the annual return required by the preceding section, shall, for the first fifteen days or portion thereof during which such neglect continues, forfeit five dollars a day; for the second fifteen days or any portion thereof, ten dollars a day; and for each day thereafter not more than fifteen dollars a day. If any company unreasonably refuses or neglects to make such return, it shall, in addition thereto, forfeit not more than five hundred dollars for each offence. All forfeitures incurred under the provisions of this act may be recovered by an information in equity brought in the supreme judicial court by the attorney-general, at the relation of the board of gas and electric light commissioners, and when so recovered shall be paid into the treasury of the commonwealth and applied to the payment of the expenses of the board. [*Approved March 14, 1912.*]

CHAPTER 251.

An Act relative to the Form of Notices required before bringing Actions for Recovery of Damages for Injuries to Employees in Certain Cases.

Be it enacted, etc., as follows:

SECTION 1. Section one hundred and thirty-two of chapter five hundred and fourteen of the acts of the year nineteen hundred and nine, as amended by section two of chapter one hundred and sixty-six and by chapter six hundred and eleven of the acts of the year nineteen hundred and ten, and by chapter one hundred and seventy-eight of the acts of the year nineteen hundred and eleven, is hereby further amended by adding at the end thereof the words:— Any form of written communication signed by the person so injured, or by some person in his behalf, or by his executor or administrator, or by some person in behalf of such executor or administrator, which contains the information that the person was so injured, giving the time, place and cause of the injury or death, shall be considered a sufficient notice, — so as to read as follows:— *Section 132.* No action for the recovery of damages for injury or death under the provisions of the five preceding sections shall be maintained unless notice of the time, place and cause of the injury is given to the employer within sixty days, and the action is commenced within one year, after the accident which causes the injury or death. Such notice shall be in writing, signed by the person injured or by a person in his behalf. If the person injured dies within the time required for giving the notice his executor or administrator may give such notice within sixty days after his appointment; and in such case the action may be begun within one year after the appointment of such executor or administrator. If from physical or mental incapacity it is impossible for the person injured to give the notice within the time provided in this section, he may give it within ten days after such incapacity has been removed, and if he dies within said ten days his executor or administrator may give such notice within sixty days after his appointment. If the employer dies without such notice having been given and before the time for giving such notice has elapsed, the notice may be given to his executor or administrator, and the time within which the notice may be given as herein provided, shall run from the appointment of the executor or administrator. A notice given under the provisions of this section shall not be held invalid or insufficient solely by reason of an inaccuracy in stating the time, place or cause

of the injury if it is shown that there was no intention to mislead, and that the employer was not in fact misled thereby. If the employer dies without such action having been brought and before the time for bringing the action has elapsed, the action may be begun against his executor or administrator not less than one year and not more than two years after the executor or administrator has given bond for the performance of his trust. Any form of written communication signed by the person so injured, or by some person in his behalf, or by his executor or administrator, or by some person in behalf of such executor or administrator, which contains the information that the person was so injured, giving the time, place and cause of the injury or death, shall be considered a sufficient notice.

SECTION 2. This act shall take effect upon its passage. [*Approved March 14, 1912.*]

CHAPTER 271.

An Act relative to Conditional Sales of Personal Property used in Connection with Real Estate.

Be it enacted, etc., as follows:

SECTION 1. No conditional sale of heating apparatus, plumbing goods, ranges or other personal property which are afterward wrought into or attached to real estate shall be valid as against any mortgagee, purchaser or grantee of such real estate, unless within ten days after the making of the contract of conditional sale, such contract, or a memorandum thereof signed by both parties thereto, is recorded in the clerk's office of the city or town in which the real estate is situated.

SECTION 2. This act shall take effect upon its passage. [*Approved March 18, 1912.*]

CHAPTER 300.

An Act relative to the Turners Falls Company.

Be it enacted, etc., as follows:

SECTION 1. The Turners Falls Company is hereby made subject to the provisions of chapter four hundred and thirty-seven of the acts of the year nineteen hundred and three, entitled "An Act relative to Business Corporations", and all acts in amendment thereof or in addition thereto in regard to the amount of property which it may hold, the amount of stocks, bonds and other securities which it may issue, and the manner and mode of issuing the same:

provided, however, that the capital stock of said company shall not be increased to an amount exceeding two and one half million dollars and that all stock shall be issued for cash at par; and provided, further, that bonds, mortgage or coupon notes, or other evidences of indebtedness payable at periods of more than twelve months after the date thereof shall not be issued to an amount exceeding the capital stock outstanding at the time of such issue.

SECTION 2. Nothing herein contained shall be so construed as to abridge the powers heretofore granted to said corporation.

SECTION 3. This act shall take effect upon its passage. [*Approved March 21, 1912.*

CHAPTER 313.

An Act to dissolve Certain Corporations.

Be it enacted, etc., as follows:

SECTION 1. Such of the following-named corporations as are not already legally dissolved are hereby dissolved, subject to the provisions of sections fifty-two and fifty-three of chapter four hundred and thirty-seven of the acts of the year nineteen hundred and three: —¹

Bridgewater Electric Company, The.
Chelsea Gas Light Company.
Cohasset Electric Company.
Colrain Electric Light & Power Company, The.
Consumers Electric Company.
Eastern Electric Company.
International Electric Company.
Lowell and Fitchburg Electric Company.
Nashua River Paper Company (1894).
Norfolk and Bristol Gas and Electric Company.
Quinsigamond Electric Light and Power Company.
Shelburne Falls Electric Light and Power Company.
U. S. Automatic Light Company.
Vineyard Haven Electric Light and Power Company, The.
Waltham Gas Light Company.

SECTION 2. Nothing in this act shall be construed to affect any suit now pending by or against any corporation mentioned in the

¹ This act names 930 corporations, but only gas or electric companies are mentioned here.

first section hereof, nor any suit now pending or hereafter brought for any liability now existing against the stockholders or officers of any such corporation, nor to revive any charter previously annulled or corporation previously dissolved, nor to make valid any defective organization of any of the supposed corporations mentioned in said first section.

SECTION 3. Suits upon choses in actions arising out of contracts sold or assigned by any corporation dissolved by this act may be brought or prosecuted in the name of the purchaser or assignee. The fact of sale or assignment and of purchase by the plaintiff shall be set forth in the writ or other process; and the defendant may avail himself of any matter of defense of which he might have availed himself in a suit upon the claim by such corporation, had it not been dissolved by this act.

SECTION 4. This act shall take effect upon its passage. [*Approved March 25, 1912.*]

CHAPTER 318.

An Act relative to safeguarding Machinery and Elevators.

Be it enacted, etc., as follows:

Section ninety-four of chapter five hundred and fourteen of the acts of the year nineteen hundred and nine is hereby amended by striking out the said section and substituting the following:—
Section 94. The belting, shafting, gearing, drums, elevators and all machinery having movable parts in all factories, mechanical establishments, workshops and mercantile establishments, if so placed as, in the opinion of an inspector of factories and public buildings, to be dangerous to employees therein while engaged in their ordinary duties, shall be, so far as is practicable, securely guarded. No machinery except steam engines in a factory, mechanical establishment, workshop, or mercantile establishment shall be cleaned while running if objection in writing is made by one of said inspectors. All factories, mechanical establishments, workshops and mercantile establishments shall be well lighted and well ventilated, and shall be kept clean, and this last requirement shall be enforced by the state inspectors of health. [*Approved March 25, 1912.*]

CHAPTER 409.

An Act relative to reporting Accidents.

Be it enacted, etc., as follows:

Chapter five hundred and fourteen of the acts of the year nineteen hundred and nine is hereby amended by striking out section one hundred and forty-four and inserting in place thereof the following:— *Section 144.* All employers shall keep a correct record of any accident occurring to an employee while at work for the employer, whether such accident results in the death of the employee or in such bodily injury as shall prevent him from returning to work within four days thereafter. The said record shall be open to inspection by an inspector of factories of the district police. Within ninety-six hours after the time of the accident a written report thereof shall be furnished to the chief of the district police, upon forms to be furnished by him. No statements contained in any such report shall be admissible in any action arising out of the accident therein reported. The chief of the district police shall furnish the sender with a written or printed acknowledgment of the receipt of the report, shall keep a record of all accidents so reported to him, and shall include an abstract of the record in his annual report. An employer who fails to keep the record or to furnish the report to the chief of the district police required by this section shall be punished by a fine of not less than ten dollars nor more than twenty-five dollars for each offence. [*Approved April 6, 1912.*

CHAPTER 437.

An Act to provide for the Inspection of Demand Indicators and Other Devices of Electric Companies.

Be it enacted, etc., as follows:

SECTION 1. The provisions of sections thirty-six, thirty-seven and thirty-eight of chapter one hundred and twenty-one of the Revised Laws and of all acts in amendment thereof and in addition thereto shall apply to demand indicators, so-called, and any other devices or appliances installed by an electric company upon the premises of any of its customers and used by such company for the purpose of determining the charge to the customer for its service. Nothing herein contained shall be held to authorize or prohibit differential prices for electricity supplied by any such company.

SECTION 2. Whoever, being engaged in the sale of electricity,

maintains upon the premises of a customer a meter, demand indicator or other mechanical device or appliance for the purpose of determining the charge to be made for electricity supplied to such customer, which meter, demand indicator or other mechanical device or appliance is found upon examination and test, as provided in section thirty-six of chapter one hundred and twenty-one of the Revised Laws, to register incorrectly as against such customer, shall refund to the customer such an amount as, if not agreed upon, shall be determined by the board of gas and electric light commissioners upon application of the customer, and after an opportunity has been given to the company to be heard.

SECTION 3. All provisions of law inconsistent herewith are hereby repealed.

SECTION 4. This act shall take effect upon its passage. [*Approved April 6, 1912.*]

CHAPTER 456.

An Act making Appropriations for Salaries and Expenses of the Board of Gas and Electric Light Commissioners.

Be it enacted, etc., as follows:

SECTION 1. The sums hereinafter mentioned are appropriated, to be paid out of the Gas and Electric Light Commissioners' Fund, for the salaries and expenses of the gas and electric light commissioners, for the fiscal year ending on the thirtieth day of November, nineteen hundred and twelve, to wit:—

For the salaries of the commissioners, fourteen thousand dollars.

For clerical assistance, a sum not exceeding sixty-five hundred dollars.

For statistics, books, stationery, and for other necessary expenses, a sum not exceeding four thousand dollars.

For rent of an office, a sum not exceeding forty-two hundred dollars.

For the inspection of electric meters, a sum not exceeding one thousand dollars.

For the salary of the present gas inspector, twenty-eight hundred dollars.

For the salary of the present first assistant inspector, eighteen hundred dollars.

For the salary of the present second assistant inspector, sixteen hundred dollars.

For compensation of deputies, travelling expenses, apparatus, office rent and other incidental expenses, a sum not exceeding nine thousand dollars.

For printing and binding the annual report, a sum not exceeding twenty-seven hundred dollars.

For expenses in connection with the abatement of the smoke nuisance, a sum not exceeding eight thousand dollars.

SECTION 2. This act shall take effect upon its passage. [*Approved April 10, 1912.*]

CHAPTER 460.

An Act to authorize the Buzzards Bay Electric Company to manufacture and sell Gas.

Be it enacted, etc., as follows:

SECTION 1. The Buzzards Bay Electric Company, in addition to the rights and powers now possessed by it, is hereby authorized, upon a two thirds vote in number and interest of its stockholders at a meeting duly called for that purpose, to engage in the business of making, selling and distributing gas for all purposes permitted by law in the town of Barnstable, and for that purpose to purchase all the property, rights and privileges existing or in use at the date of the passage of this act for the manufacture and sale of gas in the town of Barnstable: *provided, however*, that such purchase shall not be made until the board of gas and electric light commissioners, after notice and a public hearing, has determined that the facilities for furnishing and distributing light, heat and power will not thereby be diminished, and that such purchase and the terms thereof are consistent with the public interest.

SECTION 2. Except as hereinbefore provided said corporation shall with respect to the said gas business have all the powers and privileges and be subject to all the duties, liabilities and restrictions set forth in all general laws now or hereafter in force relating to gas companies.

SECTION 3. This act shall take effect upon its passage. [*Approved April 10, 1912.*]

CHAPTER 477.

An Act relative to the Hours of Employment of Women and Minors.

Be it enacted, etc., as follows:

Section forty-eight of chapter five hundred and fourteen of the acts of the year nineteen hundred and nine, as amended by chapter four hundred and eighty-four of the acts of the year nineteen hun-

dred and eleven, is hereby further amended by striking out the words "except as hereinafter provided in this section, unless a different apportionment of the hours of labor is made for the sole purpose of making a shorter day's work for one day of the week", in the fourth, fifth, sixth and seventh lines, and by inserting after the word "week", in the eighth line, the words:—and if any child or woman shall be employed in more than one manufacturing or mechanical establishment, the total number of hours of such employment shall not exceed fifty-four hours in any one week,—and also by striking out the words "thirty-six and thirty-seven", in the twentieth line, and inserting in place thereof the words:—sixty-seven and sixty-eight,—so as to read as follows:—*Section 48.* No child under eighteen years of age and no woman shall be employed in laboring in a manufacturing or mechanical establishment more than ten hours in any one day; and in no case shall the hours of labor exceed fifty-four in a week, and if any child or woman shall be employed in more than one manufacturing or mechanical establishment, the total number of hours of such employment shall not exceed fifty-four hours in any one week; except that in any such establishment where the employment is by seasons, the number of such hours in any one week may exceed fifty-four, but not fifty-eight, provided, that the total number of such hours in any year shall not exceed an average of fifty-four hours a week for the whole year, excluding Sundays and holidays. Every employer shall post in a conspicuous place in every room in which such persons are employed a printed notice stating the number of hours' work required of them on each day of the week, the hours of commencing and stopping work, and the hours when the time allowed for meals begins and ends or, in the case of establishments exempted from the provisions of sections sixty-seven and sixty-eight, the time, if any, allowed for meals. The printed forms of such notices shall be provided by the chief of the district police, after approval by the attorney-general. The employment of such person at any time other than as stated in said printed notice shall be deemed a violation of the provisions of this section unless it appears that such employment was to make up time lost on a previous day of the same week in consequence of the stopping of machinery upon which he was employed or dependent for employment; but no stopping of machinery for less than thirty consecutive minutes shall justify such overtime employment, nor shall such overtime employment be authorized until a written report of the

day and hour of its occurrence and its duration is sent to the chief of the district police or to an inspector of factories and public buildings. [*Approved April 12, 1912.*]

CHAPTER 491.

An Act relative to the Taxation of Domestic Business Corporations.

Be it enacted, etc., as follows:

SECTION 1. The third paragraph of section forty-one of Part III of chapter four hundred and ninety of the acts of the year nineteen hundred and nine, as amended by chapter two hundred and seventy of the acts of the year nineteen hundred and ten, is hereby further amended by inserting after the word "taxation", in the eleventh line, the words:—nor shall there be deducted the value of any shares of stock of the corporation itself owned directly or indirectly by it or for its benefit,—so that said paragraph as amended will read as follows:—

Third, In case of a domestic business corporation, the value of the works, structures, real estate, machinery, poles, underground conduits, wires and pipes owned by it within the commonwealth subject to local taxation, and of securities which if owned by a natural person resident in this commonwealth would not be liable to taxation; also the value of its property situated in another state or country and subject to taxation therein. There shall not be deducted the value of securities which if owned by a natural person resident in this commonwealth would be liable to taxation, nor shall there be deducted the value of any shares of stock of the corporation itself owned directly or indirectly by it or for its benefit; and the tax commissioner in determining for the purposes of taxation the value of the corporate franchise of any such corporation shall not take into consideration any debts of such corporation unless the returns required from it contain a statement duly signed and sworn to, setting forth that no part of such debts was incurred for the purpose of reducing the amount of taxes to be paid by it.

SECTION 2. This act shall take effect upon its passage. [*Approved April 16, 1912.*]

CHAPTER 495.

An Act relative to Certain Corrupt Conduct on the Part of Agents and Others.

Be it enacted, etc., as follows:

Section twenty-eight of chapter five hundred and fourteen of the acts of the year nineteen hundred and nine is hereby amended by adding at the end thereof, the following:— except that if the person who commits the said offence acts as agent or officer of any person, partnership or corporation to employ persons as clerks, laborers or otherwise, the offence shall be felony punishable by a fine of not less than twenty-five dollars, nor more than five hundred dollars, or by imprisonment in the state prison for not more than three years. The district attorneys in their respective districts shall prosecute all violations of this section,— so as to read as follows:— *Section 28.* Whoever corruptly gives, offers or promises to an agent, employee or servant, any gift or gratuity whatever, with intent to influence his action in relation to the business of his principal, employer or master; or an agent, employee or servant who corruptly requests or accepts a gift or gratuity or a promise to make a gift or to do an act beneficial to himself, under an agreement or with an understanding that he shall act in any particular manner in relation to the business of his principal, employer or master; or an agent, employee or servant, who, being authorized to procure materials, supplies or other articles either by purchase or contract for his principal, employer or master, or to employ service or labor for his principal, employer or master, receives directly or indirectly, for himself or for another, a commission, discount or bonus from the person who makes such sale or contract, or furnishes such materials, supplies or other articles, or from a person who renders such service or labor; and any person who gives or offers such an agent, employee or servant such commission, discount or bonus, shall be punished by a fine of not less than ten dollars nor more than five hundred dollars, or by such fine and by imprisonment for not more than one year; except that if the person who commits the said offence acts as agent or officer of any person, partnership, or corporation to employ persons as clerks, laborers or otherwise, the offence shall be felony punishable by a fine of not less than twenty-five dollars nor more than five hundred dollars, or by imprisonment in the state prison for not more than three years. The district attorneys in their respective districts shall prosecute all violations of this section. [*Approved April 16, 1912.*]

CHAPTER 531.

An Act relative to the Operation and Inspection of Steam Boilers.

Be it enacted, etc., as follows:

SECTION 1. Section one of chapter four hundred and sixty-five of the acts of the year nineteen hundred and seven, as amended by section one of chapter five hundred and sixty-three of the acts of the year nineteen hundred and eight and by section one of chapter three hundred and ninety-three of the acts of the year nineteen hundred and nine, is hereby further amended by inserting after the word "year", in the eleventh line, the words, — and no person shall operate or cause to be operated any boiler not exempted by the provisions of this section until the boiler has been inspected as hereinafter provided, nor until the certificate of inspection as hereinafter provided has been issued and so placed as to be easily read in the engine or boiler room of the plant where the boiler is located, except that such certificate of inspection for a portable boiler shall be kept on the premises and shall be accessible at all times, — and by striking out the words "shall not be operated", in the same line, and inserting in place thereof the words: — no person shall operate or cause to be operated any boiler not exempted by the provisions of this section, — so as to read as follows: — *Section 1.* All steam boilers and their appurtenances, except boilers of railroad locomotives, motor road vehicles, boilers in private residences, boilers in public buildings and in apartment houses used solely for heating, and carrying pressures not exceeding fifteen pounds per square inch, and having less than four square feet of grate surface, boilers of not more than three horse power, boilers used for horticultural and agricultural purposes exclusively, and boilers under the jurisdiction of the United States, shall be thoroughly inspected internally and externally at intervals of not over one year, and no person shall operate or cause to be operated any boiler not exempted by the provisions of this section until the boiler has been inspected as hereinafter provided, nor until the certificate of inspection as hereinafter provided has been issued and so placed as to be easily read in the engine or boiler room of the plant where the boiler is located, except that such certificate of inspection for a portable boiler shall be kept on the premises and shall be accessible at all times; and no person shall operate or cause to be operated any boiler not exempted by the provisions of this section at pressures in excess of the safe working pressure stated

in the certificate of inspection hereinafter mentioned, which pressure is to be ascertained by rules established by the board of boiler rules, to be appointed as hereinafter provided; and shall be equipped with such appliances to insure safety of operation as shall be prescribed by said board. All such boilers installed after January first, nineteen hundred and eight, shall be so inspected when installed. A boiler in this commonwealth at the time of the passage of this act which does not conform to the rules of construction formulated by the board of boiler rules may be installed after a thorough internal and external inspection and hydrostatic pressure test by a member of the boiler inspection department of the district police, or by an inspector holding a certificate of competency as an inspector of steam boilers, as provided by section six of chapter four hundred and sixty-five of the acts of the year nineteen hundred and seven, and employed by the company insuring the boiler. The pressure allowed on such boilers is to be ascertained by rules formulated by the board of boiler rules. No certificate of inspection shall be granted on any boiler installed after May first, nineteen hundred and eight, which does not conform to the rules formulated by the board of boiler rules.

SECTION 2. Section two of said chapter four hundred and sixty-five is hereby amended by striking out the word "annually", in the fourth line; by inserting after the word "report", in the fourth and fifth lines, the words:— in writing, — and by inserting, after the word "chief", in the fifth line, the words:— inspector of the boiler inspection department, — and by adding at the end of said section the words:— before the work of installation of such boiler is completed; and annually thereafter: *provided, however*, that whoever owns, or uses or causes to be used, any such boiler, shall also report in writing immediately to the chief inspector of the boiler inspection department of the district police when the periodically guaranteed inspection of an insurance company authorized to insure boilers in this commonwealth ceases on such boiler for any cause, and annually thereafter so long as such boiler is not under the periodically guaranteed inspection of an insurance company authorized to insure boilers in this commonwealth, — so as to read as follows:— *Section 2.* Whoever owns, or uses or causes to be used, any such boiler, unless the same is under the periodically guaranteed inspection of insurance companies authorized to insure boilers in this commonwealth, shall report in writing to the chief inspector of the boiler inspection department of the district police

the location of such boiler, before the work of installation of such boiler is completed; and annually thereafter: *provided, however,* that whoever owns, or uses or causes to be used, any such boiler, shall also report in writing immediately to the chief inspector of the boiler inspection department of the district police when the periodically guaranteed inspection of an insurance company authorized to insure boilers in this commonwealth ceases on such boiler for any cause, and annually thereafter so long as such boiler is not under the periodically guaranteed inspection of an insurance company authorized to insure boilers in this commonwealth.

SECTION 3. Section five of said chapter four hundred and sixty-five is hereby amended by adding at the end thereof the words, — Every insurance company authorized to inspect and insure steam boilers in this commonwealth shall have in its employ at least one inspector who holds a certificate of competency as hereinafter provided, and who resides in this commonwealth, — so as to read as follows: — *Section 5.* No person shall act as an inspector of boilers which are under the periodically guaranteed inspection of companies that have complied with the laws of this commonwealth, unless he holds a certificate of competency as hereinafter provided. Every insurance company authorized to inspect and insure steam boilers in this commonwealth shall have in its employ at least one inspector who holds a certificate of competency as hereinafter provided, and who resides in this commonwealth.

SECTION 4. Said chapter four hundred and sixty-five is hereby further amended by striking out section thirteen and inserting in place thereof the following: — *Section 13.* The owner or user of a boiler herein required to be inspected shall prepare the boiler for inspection as directed by the inspector. The inspector shall give the owner or user at least fourteen days' notice to prepare a boiler for inspection, if requested by the owner or user to give such notice: *provided, however,* that the inspector shall not be required to give notice of external inspection under steam, and that such notice need not be given if the boiler is in process of installation, or if the boiler has not been inspected within one year and a certificate of inspection issued. If, in the judgment of an inspector of the boiler inspection department of the district police, any boiler or its appurtenances, which are herein required to be inspected, are in a defective or dangerous condition, he may immediately order the boiler discontinued from service, whether or not such boiler is under the periodically guaranteed inspection of an insurance company

authorized to insure steam boilers in this commonwealth; and no person shall again operate such boiler, or cause it to be operated, until a certificate of inspection has been issued by an inspector of the boiler inspection department of the district police.

SECTION 5. Section fourteen of said chapter four hundred and sixty-five is hereby amended by inserting after the word "inspection", in the fourth and fifth lines, the words:—under steam, and two dollars for each cast-iron sectional boiler inspected,—and by striking out the word "boilers", in the seventh line, and inserting in place thereof the words:—the boiler inspection department,—so as to read as follows:—*Section 14.* The owner or user of a boiler inspected by the boiler inspection department shall pay to the inspector five dollars for each boiler internally and externally inspected, and two dollars for each visit for external inspection under steam, and two dollars for each cast-iron sectional boiler inspected. The inspector shall give receipts for the same, and shall pay all sums so received to the chief inspector of the boiler inspection department, who shall pay the same to the treasurer of the commonwealth.

SECTION 6. Section fifteen of said chapter four hundred and sixty-five is hereby amended by inserting after the word "up", in the third line, the words:—and the boiler and its appendages conform to the rules formulated by the board of boiler rules,—by inserting after the word "arranged", in the eleventh line, the words:—or if the boiler and its appendages do not conform to the rules formulated by the board of boiler rules,—and by inserting, after the word "operation", in the thirteenth line, the words:—and the boiler and its appendages do conform to the rules formulated by the board of boiler rules,—so as to read as follows:—*Section 15.* If, upon inspection the inspector finds the boiler to be in safe working order, with the fittings necessary to safety, and properly set up, and the boiler and its appendages conform to the rules formulated by the board of boiler rules, he shall issue to the owner or user thereof a certificate of inspection stating the maximum pressure at which the boiler may be operated, as ascertained by the rules established by the board of boiler rules, and thereupon such owner or user may operate the boiler mentioned in the certificate. If the inspector finds that the boiler is not in safe working condition, or is not provided with fittings necessary to safety, or if the fittings are improperly arranged, or if the boiler and its appendages do not conform to the rules formulated by the board of

boiler rules, he shall withhold his certificate until the boiler and its fittings are put in a condition to insure safety of operation, and the boiler and its appendages do conform to the rules formulated by the board of boiler rules; and the owner or user shall not operate the boiler, or cause it to be operated, until such certificate has been granted.

SECTION 7. Section seventeen of said chapter four hundred and sixty-five is hereby amended by inserting after the word "inspection", in the third line, the words:— if the boiler and its appendages conform to the rules formulated by the board of boiler rules, and,— and also by inserting after the word "condition", in the fourth line, the word:— otherwise,— so as to read as follows:—

Section 17. Insurance companies engaged in the business of inspecting and insuring steam boilers shall, after each internal and external inspection, if the boiler and its appendages conform to the rules formulated by the board of boiler rules, and if they deem the boiler to be in safe working condition otherwise, issue a certificate of inspection stating the maximum pressure at which the boiler may be operated. This maximum pressure shall be determined under the rules established by the board of boiler rules.

SECTION 8. All acts and parts of acts inconsistent herewith are hereby repealed.

SECTION 9. This act shall take effect upon its passage. [*Approved April 25, 1912.*

CHAPTER 556.

An Act relative to the Municipal Lighting Plants of the Towns of Reading and Wakefield.

Be it enacted, etc., as follows:

SECTION 1. Section two of chapter five hundred and sixteen of the acts of the year nineteen hundred and eleven is hereby amended by striking out all after the word "use", in the ninth line, so as to read as follows:— *Section 2.* The town of Wakefield may, if authorized by vote of the town of Reading, construct and maintain in the town of Reading pipes for the distribution and sale of gas and lines for the distribution and sale of electricity to the inhabitants thereof and to said town for municipal use; and the town of Reading may, if authorized by vote of the town of Wakefield, construct and maintain in the town of Wakefield lines for the distribu-

tion and sale of electricity to the inhabitants thereof and to said town for municipal use.

SECTION 2. This act shall take effect upon its passage. [*Approved April 29, 1912.*]

CHAPTER 564.

An Act to provide for an Investigation of the Water Power of the Commonwealth and for determining the Best Methods of utilizing the Same.

Be it enacted, etc., as follows:

SECTION 1. The sum of three thousand dollars, or so much thereof as may be necessary, may be expended annually for a period of five years, for the determination of the amount of water power available on streams of the commonwealth, and for investigating the best methods of utilizing the same, thereby providing the people of the commonwealth with information that will further industrial development.

SECTION 2. The governor is hereby empowered at his discretion to enter into coöperative agreement with the director of the United States geological survey for the purpose of making the investigation aforesaid.

SECTION 3. The amount above specified shall be expended by the commonwealth in accordance with laws governing the disbursement of appropriations, payment to be made, in the case of coöperative work, on vouchers audited and approved by said director when presented to the auditor of the commonwealth.

SECTION 4. A complete report of the work done under the foregoing sections shall be made to the governor by the director of the United States geological survey on January first of each year succeeding any year in which coöperative work shall have been maintained under authority hereof. [*Approved May 4, 1912.*]

CHAPTER 571.

An Act to perfect in Detail the Act relative to Payments to Employees for Personal Injuries received in the Course of their Employment, and to the Prevention of Such Injuries.

Be it enacted, etc., as follows:

SECTION 1. Section three of Part II of chapter seven hundred and fifty-one of the acts of the year nineteen hundred and eleven is hereby amended by adding at the end thereof the words: — If a

claim is made under this section the subscriber shall be allowed to appear and defend against such claim only, — so as to read as follows: — *Section 3.* If the employee is injured by reason of the serious and wilful misconduct of a subscriber or of any person regularly entrusted with and exercising the powers of superintendence, the amounts of compensation hereinafter provided shall be doubled. In such case the subscriber shall repay to the association the extra compensation paid to the employee. If a claim is made under this section the subscriber shall be allowed to appear and defend against such claim only.

SECTION 2. Section eleven of Part II of said chapter seven hundred and fifty-one is hereby amended by striking out the words “entire and irrecoverable loss of the sight of both eyes”, in the third and fourth lines of clause (*a*), and inserting in place thereof the words: — reduction to one tenth of normal vision in both eyes with glasses, — so that clause (*a*) shall read as follows: — (*a*) For the loss by severance of both hands at or above the wrist, or both feet at or above the ankle, or the loss of one hand and one foot, or the reduction to one tenth of normal vision in both eyes with glasses, one half of the average weekly wages of the injured person, but not more than ten dollars nor less than four dollars a week, for a period of one hundred weeks, — and by striking out the words “entire and irrecoverable loss of the sight of either eye”, in the second and third lines of clause (*b*), and inserting in place thereof the words: — reduction to one tenth of normal vision in either eye with glasses, — so that clause (*b*) shall read as follows: — (*b*) For the loss by severance of either hand at or above the wrist, or either foot at or above the ankle, or the reduction to one tenth of normal vision in either eye with glasses, one half the average weekly wages of the injured person, but not more than ten dollars nor less than four dollars a week, for a period of fifty weeks.

SECTION 3. Section sixteen of Part II of said chapter, as amended by chapter one hundred and seventy-two of the acts of the year nineteen hundred and twelve, is hereby further amended by striking out said section and inserting in place thereof the following: — *Section 16.* The said notice shall be in writing, and shall state in ordinary language the time, place and cause of the injury, and shall be signed by the person injured, or by a person in his behalf, or, in the event of his death, by his legal representative or by a person in his behalf, or by a person to whom payments may be due under this act or by a person in his behalf. Any form of written

communication signed by any person who may give the notice as above provided, which contains the information that the person has been so injured, giving the time, place and cause of the injury, shall be considered a sufficient notice.

SECTION 4. Section nineteen of Part II of said chapter seven hundred and fifty-one is hereby amended by striking out the words "given notice of", in the first line, and inserting in place thereof the word:—received,—by striking out the words "as provided by this act", in the second line; and by inserting after the word "association", in the fourth and seventh lines, the words:—or subscriber,—so as to read as follows:—*Section 19.* After an employee has received an injury, and from time to time thereafter during the continuance of his disability he shall, if so requested by the association or subscriber, submit himself to an examination by a physician or surgeon authorized to practise medicine under the laws of the commonwealth, furnished and paid for by the association or subscriber. The employee shall have the right to have a physician provided and paid for by himself present at the examination. If he refuses to submit himself for the examination, or in any way obstructs the same, his right to compensation shall be suspended, and his compensation during the period of suspension may be forfeited.

SECTION 5. Part II of said chapter seven hundred and fifty-one is hereby amended by adding at the end thereof a new section as follows:—*Section 23.* The claim for compensation shall be in writing and shall state the time, place, cause and nature of the injury; it shall be signed by the person injured or by a person in his behalf, or, in the event of his death, by his legal representative or by a person in his behalf, or by a person to whom payments may be due under this act or by a person in his behalf, and shall be filed with the industrial accident board. The failure to make a claim within the period prescribed by section fifteen shall not be a bar to the maintenance of proceedings under this act if it is found that it was occasioned by mistake or other reasonable cause.

SECTION 6. Section one of Part III of said chapter seven hundred and fifty-one is hereby amended by striking out the word "three", in the second line, and inserting in place thereof the word:—five,—by striking out the word "six", in the fifth, eighth and ninth lines, and inserting in place thereof the word:—five,—by inserting after the word "appointed", in the seventh line, the words:—for one year, one,—by inserting after the word "years",

where it first occurs in the seventh line, the words: — one for three years, — and by striking out the word “second”, in the ninth line, so as to read as follows: — *Section 1.* There shall be an industrial accident board consisting of five members, to be appointed by the governor, by and with the advice and consent of the council, one of whom shall be designated by the governor as chairman. The term of office of members of this board shall be five years, except that when first constituted one member shall be appointed for one year, one for two years, one for three years, one for four years, and one for five years. Thereafter one member shall be appointed every year for the full term of five years.

SECTION 7. Section two of Part III of said chapter seven hundred and fifty-one is hereby amended by striking out the words “sixty-five hundred”, in the third line, and inserting in place thereof the words: — five thousand, — and by striking out the words “six thousand”, in the fourth line, and inserting in place thereof the words: — forty-five hundred, — so as to read as follows: — *Section 2.* The salaries and expenses of the board shall be paid by the commonwealth. The salary of the chairman shall be five thousand dollars a year, and the salary of the other members shall be forty-five hundred dollars a year each. The board may appoint a secretary at a salary of not more than three thousand dollars a year, and may remove him. It shall also be allowed an annual sum, not exceeding ten thousand dollars, for clerical service, and travelling and other necessary expenses. The board shall be provided with an office in the state house or in some other suitable building in the city of Boston, in which its records shall be kept.

SECTION 8. Section three of Part III of said chapter seven hundred and fifty-one is hereby amended by inserting after the word “witnesses”, in the fifth line, the words: — administer oaths, — and by adding at the end thereof the words: — The fees for attending as a witness before the industrial accident board shall be one dollar and fifty cents a day, for attending before an arbitration committee fifty cents a day; in both cases five cents a mile for travel out and home.

The superior court shall have power to enforce by proper proceedings the provisions of this section relating to the attendance and testimony of witnesses and the examination of books and records, — so as to read as follows: — *Section 3.* The board may make rules not inconsistent with this act for carrying out the provisions of the act. Process and procedure under this act shall be

as summary as reasonably may be. The board or any member thereof shall have the power to subpoena witnesses, administer oaths, and to examine such parts of the books and records of the parties to a proceeding as relate to questions in dispute. The fees for attending as a witness before the industrial accident board shall be one dollar and fifty cents a day, for attending before an arbitration committee fifty cents a day; in both cases five cents a mile for travel out and home.

The superior court shall have power to enforce by proper proceedings the provisions of this section relating to the attendance and testimony of witnesses and the examination of books and records.

SECTION 9. Section four of Part III of said chapter seven hundred and fifty-one is hereby amended by striking out the words "as a decree of the superior court", in the sixth line, and inserting in place thereof the words:—under the provisions of Part III, section eleven,—so as to read as follows:—*Section 4.* If the association and the injured employee reach an agreement in regard to compensation under this act, a memorandum of the agreement shall be filed with the industrial accident board and, if approved by it, thereupon the memorandum shall for all purposes be enforceable under the provisions of Part III, section eleven. Such agreements shall be approved by said board only when the terms conform to the provisions of this act.

SECTION 10. Section five of Part III of said chapter seven hundred and fifty-one is hereby amended by adding at the end thereof the words:—If the subscriber has appeared under the provisions of Part II, section three, the member named by the association shall be subject to his approval. If a vacancy occurs it shall be filled by the party whose representative is unable to act.

The arbitrators appointed by the parties shall be sworn by the chairman as follows: I do solemnly swear that I will faithfully perform my duty as arbitrator and will not be influenced in my decision by any feeling of friendship or partiality toward either party. So help me God,—so as to read as follows:—*Section 5.* If the association and the injured employee fail to reach an agreement in regard to compensation under this act, either party may notify the industrial accident board who shall thereupon call for the formation of a committee of arbitration. The committee of arbitration shall consist of three members, one of whom shall be a member of the industrial accident board, and shall act as

chairman. The other two members shall be named, respectively, by the two parties. If the subscriber has appeared under the provisions of Part II, section three, the member named by the association shall be subject to his approval. If a vacancy occurs it shall be filled by the party whose representative is unable to act.

The arbitrators appointed by the parties shall be sworn by the chairman as follows: I do solemnly swear that I will faithfully perform my duty as arbitrator and will not be influenced in my decision by any feeling of friendship or partiality toward either party. So help me God.

SECTION 11. Section six of Part III of said chapter seven hundred and fifty-one is hereby amended by inserting after the word "provided", in the eighth line, the words: — or after a vacancy has occurred, — so as to read as follows: — *Section 6.* It shall be the duty of the industrial accident board, upon notification that the parties have failed to reach an agreement, to request both parties to appoint their respective representatives on the committee of arbitration. The board shall designate one of its members to act as chairman, and, if either party does not appoint its member on this committee within seven days after notification, as above provided, or after a vacancy has occurred, the board or any member thereof shall fill the vacancy and notify the parties to that effect.

SECTION 12. Part III of said chapter is hereby amended by striking out section seven and inserting in place thereof the following: — *Section 7.* The committee on arbitration shall make such inquiries and investigations as it shall deem necessary. The hearings of the committee shall be held in the city or town where the injury occurred, and the decision of the committee, together with a statement of the evidence submitted before it, its findings of fact, rulings of law and any other matters pertinent to questions arising before it shall be filed with the industrial accident board. Unless a claim for a review is filed by either party within seven days, the decision shall be enforceable under the provisions of Part III, section eleven.

SECTION 13. Section ten of Part III of said chapter is hereby amended by inserting after the word "and", in the third line, the words: — may hear evidence in regard to any or all matters pertinent thereto and may revise the decision of the committee in whole or in part, or may refer the matter back to the committee for further findings of fact, and shall, — and by adding at the end

of said section the words:—and notify the parties thereof. No party shall as a matter of right be entitled to a second hearing upon any question of fact,—so as to read as follows:—*Section 10.* If a claim for a review is filed, as provided in Part III, section seven, the board shall hear the parties and may hear evidence in regard to any or all matters pertinent thereto and may revise the decision of the committee in whole or in part, or may refer the matter back to the committee for further findings of fact, and shall file its decision with the records of the proceedings and notify the parties thereof. No party shall as a matter of right be entitled to a second hearing upon any question of fact.

SECTION 14. Part III of said chapter is hereby further amended by striking out section eleven and inserting in place thereof the following:—*Section 11.* Any party in interest may present certified copies of an order or decision of the board, a decision of an arbitration committee from which no claim for review has been filed within the time allowed therefor, or a memorandum of agreement approved by the board, and all papers in connection therewith, to the superior court for the county in which the injury occurred or for the county of Suffolk, whereupon said court shall render a decree in accordance therewith and notify the parties. Such decree shall have the same effect and all proceedings in relation thereto shall thereafter be the same as though rendered in a suit duly heard and determined by said court, except that there shall be no appeal therefrom upon questions of fact, or where the decree is based upon a decision of an arbitration committee or a memorandum of agreement, and that there shall be no appeal from a decree based upon a decision of an arbitration committee or a memorandum presented to the court within ten days after the notice of the filing thereof by the board. Upon the presentation to it of a certified copy of a decision of the industrial accident board ending, diminishing or increasing a weekly payment under the provisions of Part III, section twelve, the court shall revoke or modify the decree to conform to such decision.

SECTION 15. Section sixteen of Part III of said chapter is hereby amended by striking out the words “as if they were decrees of the superior court”, in the sixth line, and inserting in place thereof the words:—under the provisions of Part III, section eleven,—so as to read as follows:—*Section 16.* All questions arising under this act, if not settled by agreement by the parties interested therein, shall, except as otherwise herein provided, be determined by

the industrial accident board. The decisions of the industrial accident board shall for all purposes be enforceable under the provisions of Part III, section eleven.

SECTION 16. Section twenty-one of Part IV of said chapter is hereby amended by adding at the end thereof the words: — If an employer ceases to be a subscriber he shall, on or before the day on which his policy expires, give notice thereof in writing or print to all persons under contract with him. In case of the renewal of the policy no notice shall be required under the provisions of this act. He shall file a copy of said notice with the industrial accident board. The notices required by this and the preceding section may be given in the manner therein provided or in such other manner as may be approved by the industrial accident board, — so as to read as follows: — *Section 21.* Every subscriber shall give notice in writing or print to every person with whom he is about to enter into a contract of hire that he has provided for payment to injured employees by the association. If an employer ceases to be a subscriber he shall, on or before the day on which his policy expires, give notice thereof in writing or print to all persons under contract with him. In case of the renewal of the policy no notice shall be required under the provisions of this act. He shall file a copy of said notice with the industrial accident board. The notices required by this and the preceding section may be given in the manner therein provided or in such other manner as may be approved by the industrial accident board.

SECTION 17. Part V of said chapter is hereby amended by striking out section three and inserting in place thereof the following: — *Section 3.* Any liability insurance company authorized to do business within this commonwealth shall have the same right as the association to insure the liability to pay the compensation provided for by Part II of this act, and when such liability company issues a policy conditioned to pay such compensation the holder of such policy shall be regarded as a subscriber so far as applicable within the meaning of this act, and when any such company insures such payment of compensation it shall be subject to the provisions of Parts I, II, III and V and of section twenty-two of Part IV of this act, and shall file with the insurance department its classifications of risks and premiums relating thereto and any subsequent proposed classifications or premiums, none of which shall take effect until the insurance commissioner has approved the same as adequate for the risks to which they respectively apply.

SECTION 18. Section four of Part V of said chapter is hereby amended by striking out the word “forty”, in the second line, and inserting in place thereof the word:—thirty-nine,—so as to read as follows:—*Section 4.* Sections one hundred and thirty-six to one hundred and thirty-nine, inclusive, of chapter five hundred and fourteen of the acts of the year nineteen hundred and nine are hereby repealed.

SECTION 19. Section six of Part V of said chapter is hereby amended by inserting after the word “twelve”, in the second line, the words:—sections one to three, inclusive, of Part III shall take effect on the tenth day of May, nineteen hundred and twelve,—so as to read as follows:—*Section 6.* Part IV of this act shall take effect on the first day of January, nineteen hundred and twelve; sections one to three, inclusive, of Part III shall take effect on the tenth day of May, nineteen hundred and twelve; the remainder thereof shall take effect on the first day of July, nineteen hundred and twelve.

SECTION 20. This act shall take effect upon its passage. [*Approved May 10, 1912.*]

CHAPTER 586.

An Act relative to Increases of Capital Stock by Chartered Corporations.

Be it enacted, etc., as follows:

SECTION 1. Every corporation heretofore organized by special act of the legislature for a purpose or purposes for which corporations may be organized under the provisions of chapter four hundred and thirty-seven of the acts of the year nineteen hundred and three and acts in amendment thereof or in addition thereto, except corporations which are empowered to manufacture, store, transmit, sell or distribute power, which now is or may hereafter become subject to said chapter four hundred and thirty-seven, shall hereafter, despite any provisions contained in its charter, be subject to said chapter in respect to the amount of real or personal property which it may hold, and may from time to time increase or decrease its capital stock in accordance with the provisions of said chapter four hundred and thirty-seven.

SECTION 2. This act shall take effect upon its passage. [*Approved May 15, 1912.*]

CHAPTER 666.

An Act relative to the Insurance of Compensation to Employees for Personal Injuries received in the Course of their Employment.

Be it enacted, etc., as follows:

SECTION 1. The insurance commissioner may withdraw his approval of any premium or distribution of subscribers given by him to the Massachusetts Employees Insurance Association under the provisions of section seventeen of Part IV of chapter seven hundred and fifty-one of the acts of the year nineteen hundred and eleven, or of any premium or rate made by an insurance company and approved by him under the provisions of section three of Part V of said chapter seven hundred and fifty-one as amended by section seventeen of chapter five hundred and seventy-one of the acts of the year nineteen hundred and twelve.

SECTION 2. The notices required by section five of Part I of said chapter seven hundred and fifty-one shall be given in such manner as the industrial accident board may approve.

SECTION 3. This act shall take effect upon its passage. [*Approved May 28, 1912.*]

CHAPTER 726.

An Act to establish a State Board of Labor and Industries.

Be it enacted, etc., as follows:

SECTION 1. There is hereby established a state board of labor and industries to be composed of five persons who shall be appointed by the governor, with the advice and consent of the council. The terms of office of the members of the board shall be five years, except that when first appointed one of the members shall be appointed for four years, one for three years, one for two years, and one for one year, the member at that time appointed for five years to be chairman. Thereafter a member shall be appointed each year, for a term of five years. One member of the board shall be an employer of labor, one a wage-earner, one a physician or a sanitary engineer, and at least one a woman. The governor, with the advice and consent of the council, shall have power to fill by appointment for the unexpired term any vacancy that may occur in the board.

SECTION 2. There shall be a commissioner of labor, who shall be appointed by the board. He shall serve for such term as the board may determine, and may be removed at any time by the board by vote of a majority of its members. Upon such removal a statement

of reasons therefor shall be filed by the board with the governor. The commissioner of labor shall devote all his time to the affairs of the board, under its direction.

SECTION 3. The salary of the chairman of the board shall be fifteen hundred dollars a year, and the salaries of each of the other members of the board shall be one thousand dollars a year. The salary of the commissioner of labor shall be determined by the board, and shall not be less than five thousand nor more than seventy-five hundred dollars a year. The board may incur other necessary expenses for carrying out the provisions of this act, not exceeding the annual appropriation therefor. It shall be provided with offices in the state house or in some other suitable building in the city of Boston, and elsewhere in the commonwealth if approved by the governor and council.

SECTION 4. The board may investigate the conditions existing in any line of industry carried on by inhabitants of the commonwealth, and such investigations may be extended outside of the commonwealth to procure information for the promotion of industrial development or the improvement of industrial conditions. The board shall receive all complaints concerning conditions existing in any industry carried on by inhabitants of the commonwealth, or concerning alleged violations of any laws enforced under its direction, and shall thereupon make or direct all needful and appropriate investigations and prosecutions. It may employ experts or other necessary assistants to aid in the performance of any duty imposed upon it by law. It may make rules not inconsistent with existing law for carrying out the provisions of this act.

SECTION 5. All powers and duties with reference to the enforcement of laws relating to labor and the employment thereof, the inspection and licensing of buildings or parts of buildings used for industrial purposes, the inspection and licensing of the workers therein and of all other industrial employees within the commonwealth, the enforcement of laws relating to the employment of women and minors, and the institution of proceedings in prosecution of violations of any of the said laws, now conferred or imposed by law upon the state board of health or state inspectors of health, or upon the chief of the district police, the inspectors of factories and public buildings of the district police, or the inspection department of the district police, or the deputy chief of the inspection department of the district police, with the exception of such duties and powers as are now imposed by law upon

the chief inspector of boilers or the boiler inspectors of the district police, and with the further exception of such powers and duties as relate to the inspection of buildings under erection, alteration or repair, are hereby transferred to the state board of labor and industries. Said board may delegate to such commissioner, deputy commissioners or inspectors as are under its direction such of the above powers as it may deem necessary to carry out the provisions of this act.

Buildings used for industrial purposes under the meaning of this act shall include factories, workshops, bakeries, mechanical establishments, laundries, foundries, tenement-house workrooms, all other buildings or parts of buildings in which manufacturing is carried on, and mercantile establishments as defined in section seventeen of chapter five hundred and fourteen of the acts of the year nineteen hundred and nine.

SECTION 6. Nothing in this act shall be construed to prevent the state inspectors of health from entering buildings used for industrial purposes when required by their duty to protect the health of the community, especially as prescribed by section three of chapter five hundred and thirty-seven of the acts of the year nineteen hundred and seven, except that the duty therein prescribed of informing themselves concerning the health of minors in factories is hereby transferred to the state board of labor and industries. The said board shall promptly report to the state board of health all cases of disease in industrial establishments which may affect the health of the community.

SECTION 7. The board may appoint not more than two deputy commissioners of labor who shall be under the direction of and responsible to the commissioner. One of the said deputies shall be especially qualified to supervise the enforcement of laws under the jurisdiction of the board which relate to the health of persons employed in buildings used for industrial purposes and shall be charged with that duty. Further division of powers and duties between the deputy commissioners may be made by the board, which shall also fix their salaries and terms of office with the approval of the governor and council. The board shall have power to remove a deputy commissioner from office at any time by vote of a majority of its members.

SECTION 8. The board shall have power to appoint and remove industrial health inspectors, industrial inspectors, assistant industrial inspectors, and necessary clerical assistants, subject to the

laws of the commonwealth relating to the appointment and removal of employees in the classified civil service. The total number of industrial health inspectors, industrial inspectors and assistant industrial inspectors shall not exceed twenty-four, of whom at least four shall be women. The state civil service commissioners shall prepare rules, subject to the approval of the governor and council, for including in the classified service all industrial health inspectors, industrial inspectors, assistant industrial inspectors, and clerical assistants. These rules shall provide that candidates for appointment shall pass an examination of a comprehensive and practical character based upon the particular requirements of the kind of work to be done: *provided*, that persons employed at the time when this act takes effect as inspectors of factories and public buildings in the inspection department of the district police and not retained in said department, as provided in section twelve of this act, shall be transferred without such special examination, and without regard to age, to serve as industrial inspectors. Such transfer shall not affect any rights of retirement with pension that shall have accrued at the date when it is made, or would thereafter accrue to an inspector so transferred, but all such rights shall be retained by any inspector as if he had remained a district police officer. Industrial health inspectors shall be persons admitted to practice medicine in this commonwealth.

Inspectors and assistant inspectors shall be not over forty-five years of age on the date of their first appointment, but this age limit shall not apply to any reappointment.

Industrial health inspectors, industrial inspectors, and assistant industrial inspectors shall devote their entire time to the affairs of the board.

Each inspector shall, before entering upon his duties, be sworn to the faithful performance thereof.

The salaries of the industrial health inspectors, industrial inspectors and assistant industrial inspectors shall be determined by the board with the approval of the governor and council and shall be graded and of sufficient amount to secure competent men and women for the service; *provided, however*, that the salaries of the industrial inspectors shall be not less than fifteen hundred dollars a year, and *provided, further*, that the amount expended by the board in any year for such salaries shall not exceed the annual appropriation therefor. All salaries provided for under this act shall be paid out of the treasury of the commonwealth.

SECTION 9. The commissioner of labor may divide the commonwealth into inspection districts, and may assign the number of industrial health inspectors, industrial inspectors and assistant industrial inspectors thereto which he deems necessary, all with the consent of the board. Any order made by a deputy commissioner or inspector may be amended, suspended or revoked by the commissioner of labor or by the board, and any order made by the commissioner may be amended, suspended or revoked by the board.

SECTION 10. Any inspector under the state board of labor and industries who directly or indirectly receives a reward, gift or gratuity on account of his official services, shall be punished by a fine of not more than one hundred dollars or by imprisonment for not more than three months; and shall also be discharged from office.

SECTION 11. For the enforcement of any law within the jurisdiction of the state board of labor and industries, industrial health inspectors, industrial inspectors and assistant industrial inspectors shall possess the police powers granted by existing law to members of the inspection department of the district police.

SECTION 12. The office of inspector of factories and public buildings in the inspection department of the district police is hereby abolished. The inspectors of factories and public buildings who are, at the time of the passage of this act, serving as building inspectors, so-called, shall remain members of the district police force with the title of inspectors of buildings. The total number of such inspectors shall be eighteen, and, upon the taking effect of this act, the governor shall designate from among the inspectors of factories and public buildings who are at the time of its passage serving as factory inspectors, so-called, a sufficient number of such inspectors to remain members of the district police and to serve as inspectors of buildings to complete this number. The remaining inspectors of factories and public buildings shall, upon the taking effect of this act, be transferred to service under the state board of labor and industries as provided in section eight of this act. Inspectors of buildings shall have the powers and be charged with the duties of the present inspectors of factories and public buildings of the district police, except as otherwise provided in this act.

SECTION 13. Copies of all reports concerning injuries received by employees, which employers are required to file with the industrial accident board under the provisions of section eighteen of Part III of chapter seven hundred and fifty-one of the acts of the

year nineteen hundred and eleven, shall be filed with the state board of labor and industries. Any employer who refuses or neglects to make the report required by this section shall be punished by a fine of not more than fifty dollars for each offence.

SECTION 14. The board shall annually, on or before the first Wednesday in January, submit to the general court a report containing a statement of the character and results of the work performed by it or under its direction during the preceding year and of the expenditures for the year, together with an estimate of the sum required for the ensuing year and recommendations for such additional legislation as the board shall deem necessary.

SECTION 15. All acts and parts of acts inconsistent herewith are hereby repealed; but nothing in this act shall be construed as affecting the duties of the bureau of statistics as defined by chapter three hundred and seventy-one of the acts of the year nineteen hundred and nine.

SECTION 16. This act shall take effect on the first day of June, nineteen hundred and thirteen, except that so much of the act as provides for the appointment of the members of the board and of the commissioner, deputy commissioners and necessary clerical assistants shall take effect on the first day of March, nineteen hundred and thirteen. [*Approved June 10, 1912.*]

RESOLVES.

CHAPTER 11.

Resolve to provide for an Investigation by the Director of the Bureau of Statistics as to Sinking Funds and Serial Loans of Cities and Towns.

Resolved, That the director of the bureau of statistics is directed to make a special investigation and to report the results thereof, in whole or in part, with such proposed legislation thereon as he may deem necessary, to the general court at its present session, and on or before the fifteenth day of April, relative to the sinking funds of the cities and towns of the commonwealth and to the outstanding loans of said cities and towns which have been issued on the serial payment plan. He shall report the result of the investigation to the next general court, so far as he may be unable to report at the present session. For the purpose of carrying out the provisions of this resolve the said director may employ such additional assistants, who shall not be subject to chapter nineteen of the Revised Laws

and the rules thereunder, and may incur such expenses as may be approved by the governor and council. [*Approved February 14, 1912.*

CHAPTER 51.

Resolve to provide for a Codification of the Laws relative to the Distribution and Sale of Gas and Electricity.

Resolved, That the board of gas and electric light commissioners be directed to revise, consolidate and arrange the general laws of the commonwealth pertaining to the manufacture, transmission, distribution and sale of gas and electricity, and to corporations engaged therein, not including street railway, telephone or telegraph companies, and in connection therewith to consider the expediency of additional legislation affecting the relations of such corporations to the public and to one another, and of extending the existing provisions of law for supervision and regulation to any or all of them. The board shall report to the next general court not later than the fifteenth day of January. [*Approved April 12, 1912.*

CHAPTER 55.

Resolve to provide for a Commission to investigate and report as to the Advisability of Legislation for the further Protection of the Public in Regard to Sales of Bonds, Stocks or Securities of Corporations.

Resolved, That the attorney-general, the bank commissioner and the commissioner of corporations shall be a commission to revise, consolidate and arrange the general laws of the commonwealth pertaining to the sale of bonds, stock and other securities of corporations and to investigate as to the advisability of legislation for the further protection of citizens of the commonwealth in regard to the sale of bonds, stock and other securities of corporations. The commission shall report the result of its investigations to the general court not later than the second Wednesday of January, nineteen hundred and thirteen, together with such recommendations for legislation as the commission may deem advisable. [*Approved April 16, 1912.*

CHAPTER 108.

Resolve to provide for the Employment of Expert Assistance to aid in the Enforcement of the Statutes relative to Explosives and Inflammable Fluids and Compounds.

Resolved, That there may be expended from the treasury of the commonwealth, by the chief of the district police, a sum not exceeding twenty-five hundred dollars for the employment of expert assistance to aid in the enforcement of the provisions of the statutes relative to explosives and inflammable fluids and compounds. [*Approved May 17, 1912.*]

CHAPTER 113.

Resolve to provide for an Investigation relative to the Holdings of Voluntary Associations and Certain Corporations and to the Consolidation of Companies controlled by them.

Resolved, That the attorney-general, the board of railroad commissioners and the board of gas and electric light commissioners, two members of the senate, to be appointed by the president of the senate, and four members of the house of representatives, to be appointed by the speaker of the house of representatives, shall be a commission to investigate the advisability of legislation relative to the holding by voluntary associations, or by corporations organized under or subject to the provisions of chapter four hundred and thirty-seven of the acts of the year nineteen hundred and three, and of the amendments thereof, of shares of corporations organized under the general or special laws of the commonwealth for the purpose of carrying on within the commonwealth the business of a railroad, street railway, electric railroad, elevated railway, gas or electric light, heat or power company, and to consider whether it is in the interest of the public to provide for the consolidation of any companies owned or controlled by such voluntary associations or holding corporations in the form of Massachusetts corporations, and to devise a method for the liquidation of such voluntary associations or corporations. The commission hereby established shall have power to administer oaths, to require the attendance and testimony of witnesses and the production of books and documents. Witnesses shall be summoned in the same manner and be paid the same fees as are witnesses in the municipal court of the city of Boston. The commission may incur such necessary expenses, not exceeding twenty-five hundred dollars in amount, as may be approved by the governor and council, and shall report to

the next general court not later than January fifth. The members of the senate and house of representatives on the commission shall receive such compensation as the governor and council shall approve. No business corporation shall acquire directly or indirectly, any of the capital stock of a corporation organized under the general or special laws of the commonwealth for the purpose of carrying on within the commonwealth the business of a railroad, street railway, electric railroad, elevated railway, gas or electric light, heat or power company, pending this investigation, nor until final action shall have been taken upon the report of this commission by the next general court. The provisions of section twenty-one of chapter three of the Revised Laws shall not apply to appointments made hereunder. [*Approved May 21, 1912.*]

CHAPTER 134.

Resolve to authorize the Publication of the Results of the Investigation relative to Sinking Funds and Serial Loans of Cities and Towns.

Resolved, That, upon the completion of the investigation relative to the sinking funds and serial loans of cities and towns provided for by chapter eleven of the resolves of the current year, the director of the bureau of statistics be authorized to make public the results thereof. [*Approved May 29, 1912.*]

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